

# American Aviation

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## Fortnightly Review

### Thinking Clearly

WHILE first reactions to the President's cooperative gesture for early modification of the temporary air mail act of 1934 indicated a desire on the part of the air transport industry to meet him half way, a most interesting public sentiment has been developing since the January 4th news of his meeting with Senator McCarran.

The public that has been demanding provision for more air transport service, and the investors in railroad securities, have become active in the matter—evidencing a coolness toward the Presidential suggestion of an independent aviation commission under the Executive department. This reaction was particularly noticeable in Wall Street.

The fact is that both users of public transportation and the investor may damn the Interstate Commerce Commission for failure to give the railroads certain rates but hasten to defend its quasi-judicial independence when the question of having transportation under a more politically inclined department is presented. There are Senators and Representatives in Congress this week who will wager good money that the President cannot secure an independent aviation commission (one Senator has wagered a bottle of imported champagne to the editor), regardless of the fact that the interstate airline operators may be so hard pressed that they will agree to go along with him on the plan.

They all seem to agree, however, that there will be corrective legislation for scheduled air transport and agree that the McCarran-

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## President Meets Aviation Half Way on McCarran Bill

### AIR COMMISSION MEMBERS RUMORED

Ed Warner Heads List; Haley,  
Branch, Hushing and Gill  
Wilson Mentioned

While the specific form of aviation legislation as it will ultimately be enacted is still speculative, opinion in government and legislative circles in Washington revolved about a five-man independent aviation commission. It is Senator McCarran's opinion that such an agency should have five men, although the White House indicated that a three-man body might be sufficient.

As events moved swiftly, spurred on by White House encouragement, the names of five men well known in the industry were under consideration in high government circles. There is some evidence that consideration of appointments to such an aviation commission has been quietly under way for some weeks.

From reliable sources, it has been learned that the following five men are being weighed for posts on the commission:

Edward Pearson Warner, as technical expert.

Norman Brown Haley, as rate making expert.

William Harlee Branch, as air mail expert.

William C. Hushing, as labor expert.

Gill Robb Wilson, as general aviation representative.

Of all eligible aviation men, Ed Warner is universally conceded an appointment. He would be eminently acceptable to the industry, both air transport and manufacturing; he has been in public life; he is conceded to be the best all-round technical expert in the industry; and is understood to be willing to accept the post if offered.

A native of Pittsburgh, now 42 years old, Warner attended Harvard University and Massachusetts Institute of Technology, serving as instructor at the latter school in 1917 and 1918. He has degrees of B. S. and M. S. In 1918 he was aeronautical engineer for the U. S. Army, and in 1919-1920 he was with the National Advisory Committee for Aeronautics both here and abroad. From 1920 to 1926 he was associate professor and professor at M. I. T., resigning his active connection in 1926 to become Assistant Secretary of the

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### Called by F. D. R.



Underwood & Underwood  
**SENATOR PAT McCARRAN**  
Aviation's friend in the Senate,  
whose White House visit Jan. 4 started  
the legislative ball rolling rapidly.

### NORTHROP RESIGNS

#### Leaves Two Douglas Jobs, Says He Is Retiring

Los Angeles, Jan. 5—John K. Northrop, vice president of Douglas Aircraft Corp., and general manager of the Northrop division, today resigned both positions, Donald Douglas, president, announced. E. H. Doak, former vice president of the Northrop division of the Douglas Corp. will become manager of the military plant.

Developer of the attack plane which bears his name and which is standard in Army Air Corps equipment, and well known throughout the industry, Mr. Northrop said his future plans are indefinite. He said he would not re-enter the industry. He relinquished his position Jan. 1.

"Mr. Northrop's resignation was accepted with regrets", Mr. Douglas said. "He is leaving of his own volition. Everyone in this corporation and in the aircraft industry has the highest respect for his ability and achievements. No change in our executive personnel is contemplated".

### Air Legislation Being Redrafted to Provide for Independent Com- mission of 5 Members

A quick turn of events in Washington the week of January 3 heightened the whole issue of aviation legislation and gave promise of fairly rapid enactment of air transport industry remedies when President Roosevelt called Senator Pat McCarran to the White House executive offices on January 4 and committed himself to an independent federal aviation commission.

The president also presented his views to Congressman Clarence Lea, of California, at a separate interview.

Senator McCarran announced immediately on leaving the White House that he would redraft his bill so that it would provide control of air transportation by a separate semi-judicial body, rather than for control by the Interstate Commerce Commission as the pending McCarran-Lea bill proposes.

Thus, after three years of demand for legislation, the trend of events brings the industry directly back to the report of the Howell Commission and original proposals then introduced calling for a permanent and independent agency to handle aviation.

In his conference with Senator McCarran, the President admitted that he has changed his mind about the I. C. C. and said he would give his approval to an independent commission. Three years ago he voiced strong disapproval of the independent commission idea, saying at that time that he favored Interstate Commerce Commission regulation of air transport.

The President's calling of Senator McCarran for a conference was a cooperative gesture to meet the air transport industry half way in their effort to solve serious legislative problems. It clarified the position of the President on aviation legislation for the first time since the drive for enactment of the McCarran-Lea Air Carrier bill began.

The Senator and Congressman Lea immediately set to work to redraft their bill to include the independent commission idea and a few other minor changes suggested by administrative departments through the inter-departmental committee.

The revised bill is expected to include certain safety regulation features for scheduled interstate air transport operations now covered by the McCarran-Crosser safety bill.

The industry generally was jubilant at the encouraging turn of events. General feeling was that enactment of constructive legislation appears a certainty at the present session of Congress—the closing session of the 75th Congress. Since the bulk of the industry originally favored an independent commission as the "ultimate goal", the feeling grew that finally aviation is to have its day at the capital, with an eventual solution eminently satisfactory to all concerned.

Observers give full credit to the strong educational campaign waged for the McCarran-Lea bill for bringing about the President's approval and commitment for, the independent commission plan.

Revision of the McCarran-Lea bill will take the form of proposed amendments, the bill retaining its number, S2 in the Senate, and H. R. 7273 in the House.

## COMMISSION

(Continued from page one)

Navy for aeronautics, a position he held until 1929 when he was appointed editor of *Aviation Magazine*. In 1935 he resigned the editorship to devote full time as a consulting engineer. A member of the National Advisory Committee for Aeronautics, Warner maintains membership in many technical and scientific organizations, here and in Europe. He is the author of books, articles and reports on aeronautical matters.

What makes Warner particularly acceptable is the fact that he was vice chairman of the Federal Aviation Commission in 1934-35, which recommended an independent federal aviation commission to handle permanently aviation matters.

### Haley

Mr. Haley is director of the air mail bureau of the Interstate Commerce Commission, and as such, is an expert on rate making and other matters affecting the regulation of air transport by an independent commission. A native of New York City, he is now 52 years old. Educated in Maine, he entered the employ of the I. C. C. in 1910, which gives him a continuous career in government service of more than twenty-seven years. Until June, 1934, when the I. C. C. took over certain functions of air transport regulation, he devoted himself to railroads.

### Branch

Harlee Branch is Second Assistant Postmaster General, having been appointed June 17, 1934. Born in Polkton, N. C., 58 years ago, he held positions with many newspapers in the south, including the *Charlotte Observer*, the *Charleston, S. C., Evening Post* and several papers in Augusta, Ga. From 1903 to 1928, with the exception of eighteen months as executive secretary to the mayor of Atlanta, Ga., he was with the *Atlanta Journal*. From 1928 to 1933 he served as Washington correspondent for the *Journal*, and became executive assistant to the Postmaster General on March 4, 1933. He is a former trustee of Carnegie Library, Atlanta, and has been active in national newspaper circles. In his present position he has handled air mail for the Post Office Department.

### Hushing

W. C. Hushing had grown up in the ranks of labor and since 1928 has been legislative representative of the American Federation of Labor in Washington. Fifty-four years old, he was born in Litchfield, Ill., is a pattern maker by trade, and has worked for a number of railroads and steel companies as foreman and superintendent. In 1918 he was elected by labor unions and trade councils as representative on two government boards set up by the Secretary of War. One board investigated wages and the other handled grievances. In 1922 he became full time representative for Panama Canal Zone labor unions in Washington, and in 1928 became representative for the entire A. F. of L. Mr. Hushing is chairman of the A. F. of L. legislative conference, which is made up of representatives who handle legislation for each of the 104 national and international unions and the 21 standard railroad organizations. Since the introduction of the McCarran-Crosser

safety bill, he has devoted considerable time to its enactment on behalf of the Air Line Pilots Association, which is an A. F. of L. group.

### Wilson

Gill Robb Wilson has just retired as president of the National Association of State Aviation Officials, and has been director of aviation for New Jersey for six years. One of the best known and best liked men in aviation, Wilson is believed to be representative of general aviation interests, particularly from the standpoint of Federal-state relationships, taxation, etc. He flew with the 68th Escadrille of the French Army during the War and was operations official of the 163rd Squadron, American Army. He was awarded the Croix de Guerre and also the Distinguished Service Medal from the State of New Jersey. He is chairman of the Air Corps Reserve, Second Corps Area, and has long been active in aviation organizations.

## Col. Gorrell Denies Shift on Bill Policy

Col. Edgar S. Gorrell, president of the Air Transport Association of America, has denied that newspaper reports were accurate when they attributed to him on Dec. 26 a statement that "the nation's airlines today asked establishment of 'non-political, permanent agency of government' similar to the Interstate Commerce Commission, to control the air transport industry".

Immediately after publication of the newspaper stories, which were based on the ATA year-end review, reports were current in Washington that Col. Gorrell had deserted the McCarran-Lea bill for a government-proposed and sponsored aviation commission which would be under the Department of Commerce. Col. Gorrell in a statement to *AMERICAN AVIATION* said:

"This office has never supported any bill or any other proposition for the economic regulation of this industry except the McCarran-Lea Bill. I think I have shouted this from the house top more than any other person in the United States".

On reading the newspaper stories, Senator McCarran had wired each airline president asking if the company had changed its policy toward his bill. Replies indicated that the ATA had instructed Col. Gorrell to support one bill and one bill only—Senator McCarran's. The controversial sentence in the year-end review was: "Regulation of the key economic problems of the industry should be vested in a non-political, competent, permanent agency of government".

## Airline Agents Make Organization Plans

An Air Line Agents Association, similar in scope to the Air Line Pilots Association and the Air Line Mechanics Association, is now in the stage of organization, according to reports. A large number of applications have been circulated among airline agents and station managers throughout the country, and it is understood a constitution and by-laws will be drawn up when a majority of eligible applicants have expressed their intentions of uniting.

Platform of the projected association will be satisfactory working hours and conditions, preventing overtime without remuneration, and living wage scale of pay, plus a promotion system and a system of regular pay increases.

### Northwest Rental

Spokane, Dec. 30—Northwest Airlines will pay \$3,816 a year rental for the new hangar, ground rental and rental of office space at Felts Field. The airline had agreed to pay for cost of materials for a new \$29,700 hangar, and this is to be paid back by the city over an eleven-year period by a system of crediting rent charges.

## ICC Says One-Third of Air Mail Is Carried at Rates Not Reasonable

Nearly one-third of the total authorized domestic air mail service has been authorized to be flown without "fair and reasonable" mileage compensation, the Interstate Commerce Commission said in its fifty-first annual report to Congress, released Jan. 3. The statement refers to the authorization by the Post Office Department of "credit" mail schedules for which the airlines receive no mail pay.

The I.C.C. asserted that this development "compels consideration of the necessity for change in the present laws," and strongly urges enactment by Congress of the pending McCarran-Lea Air Carrier Bill which would eliminate the "divided authority" over the air mail and air transport system by the Post Office and the I.C.C.

The report said the result of the Post Office authorization of non-pay mail schedules "has been a gradual increase in that part of the total mail service rendered without mileage compensation and a corresponding decrease in that part paid for at rates prescribed by us.

"As indicated in our last annual report, in considering the question of the divided authority over air mail compensation these changes in service have a material bearing upon the compensation paid to the carriers. Regardless of the need or reason for these changes, it is apparent that in the last analysis the compensation of the carrier is largely dependent upon the service designated as pay service, rather than upon the volume of mail service actually performed and the rates fixed by us under the act.

"In authorizing such changes the

amended act (The Air Mail Act of 1934, as amended) appears to negative its expressed purpose to provide fair and reasonable compensation to the carriers for the services they render, or at least to make that purpose not susceptible of reasonable attainment. A law providing for reasonable compensation for service actually rendered would insure not only a more stable but a more equitable basis."

The report also mentioned the law which requires the I.C.C. to fix air mail rates on and after July 1, 1938, to keep them within the limits of the anticipated postal revenue from air mail, questioning the accuracy of the Post Office accounting methods in ascertaining its revenues from the air mail service. "An error of only one per cent in allocating revenues to air mail would amount to more than fifty per cent of the revenues so allocated, and would, therefore, have a material bearing upon the rates to be paid air mail carriers," the report said. It is expected that the hearing set for Feb. 1 will take up the postal ascertainment methods of the Post Office.

Several pages of the report dealt with inconsistencies in the Air Mail Act, a law designed for a service almost exclusively air mail and which now is outmoded in view of the heavy passenger and express revenues. The report pointed out that the I.C.C. prohibited Transcontinental & Western Air, Inc., from starting an off-line service to San Francisco, but the Post Office authorized a new air mail route which was awarded by bid to TWA, with the same competitive features present which led the I.C.C. to disapprove the route.

### Sail for Radio Meet

Paul Goldsborough, president of Aeronautical Radio, Inc., and Lloyd Simson, of the radio development section of the Bureau of Air Commerce, sailed Jan. 4 for Alexandria, Egypt, en route to the International Telecommunications Conference in Cairo. The conference will begin Feb. 1 and continue sixty days. It is held every five years, and pertains to radio from an administrative standpoint. Representatives from the State Department, F. C. C., Army and Navy also sailed.

### Dr. Adams Made Chief

Dr. Eldridge Adams, who has been acting chief of the medical section of the Bureau of Air Commerce, has been appointed chief of the section.

### Vanderbilt Pilot

Rodney H. Jackson, vice president of Hampton Air Service, Inc., and manager of Hampton Airport at Bridgehampton, L. I., has resigned to accept a position with Mr. W. K. Vanderbilt as pilot for his Sikorsky S-43. Mr. Vanderbilt's former pilot, Earl White, has resigned, but Henry Gerstung, flight engineer and Ray Poole, mechanic, will remain in these positions. The Sikorsky is based in private hangars at Miami during the winter and at Northport, L. I., during the summer.

### Rockefeller Not In

Los Angeles, Jan. 5—W. Curtis Rockefeller, of California Institute of Technology, will not be connected with the projected air plane manufacturing company headed by J. B. Miller, it is now learned. It had previously been announced that he would be chief engineer.

## Lynch Gives \$10,000 For Wright Lectures

New York, Jan. 9—Perpetuation of annual commemorative meetings on the anniversary of the Wright brothers' first flight was assured today with announcement that Edmund C. Lynch of New York has contributed \$10,000 to the Institute of the Aeronautical Sciences in memory of his brother Vernon Lynch.

Shortly after the first Wright brothers' lecture and award presentation program given in New York Dec. 17, Mr. Lynch wrote Major Lester D. Gardner, secretary of the institute: "So strongly am I of the opinion that the Wright brothers' lecture will bring disclosures of advances which will be of practical benefit to aviation—that the honors night plan of commemorating this anniversary is so worthy of the occasion—that I believe the Institute should continue this work."

The first lecture was given at Columbia University by Prof. B. McVill Jones, Francis Mond professor of Aeronautical Engineering of Cambridge University, England. In the evening the honors night meeting was held, at which the Daniel Guggenheim medal, the Sylvanus Albert Reed award, the Lawrence Sperry award, honorary fellowships, and other honors were presented. Orville Wright and Colonel Charles Lindbergh attended.

### Blasdol Appointed

Burbank, Calif., Dec. 17—Appointment of D. E. Blasdol, former personnel director of North American Aviation Inc., as employment manager for that company, has been announced by Randall Irwin, personnel director.



## Air Mail Revenue \$12,439,579, Just Under Payment to Airlines

For First Time in Air Mail History Revenues Almost Balance Mail Pay; Aggregate Cost Is \$19,177,129, Leaving Deficit

For the first time in the history of the air mail, postal revenues come within a half million dollars of equaling the amounts paid by the Post Office Department to the air mail contractors, according to the annual report of the Postmaster General to Congress, covering the fiscal year ended June 30, 1937, and made public Jan. 3.

The report shows a startling increase in postal revenues from air mail, rising from \$6,000,000 two years ago to \$12,439,579 for the year ended June 30, 1937, or more than double. Two years ago, when about \$6,000,000 revenues were reported, the Post Office paid over \$19,000,000 to the contractors.

Congress appropriated \$12,984,000 for air mail payments for the fiscal year, which would leave an excess of payments over revenue of \$544,421. The Post Office report, however, states that \$12,722,286 was actually paid to the airlines, which would leave a difference of only \$282,707. Everything considered, air mail postal revenues just about equalled the amounts paid to the carriers. These statistics are for domestic lines only.

At the same time the Post Office claims an air mail subsidy—or deficit—of \$6,151,977 which it calls "excess cost of airplane service over postal revenues derived from air mail." This arises from the fact that in addition to the payments to the airlines, the Department adds onto the air mail cost an apportioned cost of the entire U. S. postal service. Air mail represented in the fiscal year 1937 1.759% of all mail by revenue and .134% by weight, so the Post Office added a pro rata amount of the cost of the Department operations to the mail payments, thus bringing about a "subsidy" for air mail.

Actually, the report lists the "excess of apportioned expenditures over revenue" at \$6,737,550, a figure which probably will be still higher in later reports because of recent retroactive air mail rate increases granted by the Interstate Commerce Commission.

The 1937 report has a vital bearing on air mail payments on and after July 1, 1938, in view of the legal requirement that the I.C.C. fix rates of pay on and after that date to equal the aggregate cost of the air mail service. The current Post Office report gives the "aggregate cost" of the air mail system as \$19,177,129, of which only \$12,722,286 represented payments to the airlines. If revenues are only a little over \$12,000,000, it is plain to see that if the I.C.C. places the same interpretation on "aggregate cost" as the Post Office does in its own report, the airlines are due for huge slashes in air mail payments, for the reductions would have to come from payments to the lines.

On the other hand, if the I.C.C. interprets "aggregate cost" to include merely payments to the airlines, then the airlines stand to benefit, possibly during the next year. For if air mail revenue has increased 100% in two years to a point where it almost reaches payments to contractors, then it may be expected that the fiscal year 1938 will find revenues exceeding by a wide margin the payments to the carriers.

Route miles in effect at the end of the fiscal year reached a total of 29,757 miles. A total of 19,553,543 pounds of air mail was transported, as com-

pared to 15,377,933 pounds in the fiscal year 1936; 10,775,248 pounds in 1935, and 6,476,919 pounds in the fiscal year 1934.

### J. R. PUCKETT DIES

Popular BAC Inspector Fatally Injured in Auto Crash

Miami, Dec. 22—John R. Puckett, 43, inspector here for the Bureau of Air Commerce, died here last night of injuries received in an automobile accident near Ocklawaha, Fla., late Monday. He was one of the best known and best liked men in the Bureau.

C. T. Hansen, Miami aviation director, driver of the car, suffered minor injuries when his car collided with a fruit truck. Puckett leaves his widow, his mother and three sisters. His body was shipped to his home in Obion, Tenn., for burial.

### SIT-DOWNERS FINED

22 Douglas Strikers Draw Penalties of from \$150 to \$600

Los Angeles, Dec. 30—Judge Thomas I. Ambrose yesterday imposed fines of from \$150 to \$600 each on 22 men involved in a sit-down strike at the Douglas Aircraft Company's factory last February 23. The defendants were found guilty of conspiracy to commit forcible detainer.

District Attorney Fitts had obtained wholesale indictments against 387 sit-down strikers but only 22 were tried. Maximum penalties for the offense were two years in jail or \$5,000 fine. The jury recommended the utmost leniency, however.

William Busick and Andrew Schmolder, C.I.O. organizers, were assessed top fines of \$600. Attorneys for the defendants gave notice of appeal.

### British Eye Honolulu as Pacific Air Stop

It appears to be a foregone conclusion that the British Government will ask the United States at some future date for permission to establish a landing station for Imperial Airways at Honolulu, as part of the projected London-Canada-New Zealand British air trade route.

The *London Times* in a recent editorial commented that the United States will be found willing, when the time comes, to grant the British rights to land at Honolulu. The *Vancouver, B. C., Province*, in a recent editorial, said: "In its recently negotiated fifteen-year agreement with Pan American Airways for landing stations in New Zealand, it is stipulated that there must be reciprocal concessions for British airlines."

Added credence to the British plans may be obtained from the fact that radio equipment has been installed on the British-owned Christmas Island, just 1200 miles south of Honolulu on a direct route to New Zealand. The longest single hop on the 6,350-mile route from Vancouver to New Zealand is the first leg to Honolulu of 2,430 miles. From that point on, the route is by way of British possessions. The Hawaiian Islands are an essential landing spot to such a British rout in the Pacific.

## PAA SCORES

8 of 14 Routes Have 100% Performance

Highlights of the Post Office Department report for the fiscal year ended June 30, 1937, were:

Performance of air mail service during the year on routes to Mexico, Central and South America was 99.87% of the service scheduled.

Performance of service on the trans-Pacific route was 90.64% of service scheduled.

Performance on all domestic lines totalled 95.02% of service scheduled. Lowest was Boston-Maine Airways (85.24%) and highest was Inter-Island Airways in Hawaii (99.45%).

On 8 out of 14 air mail routes operated by Pan-American Airways, performance was 100% of service scheduled—probably a world record for all time past. Only on the Pacific route did the performance fall below 99%.

Air mail to Latin America increased 41.8% and from Latin America to the U. S. increased 30.1%.

The average amount of mail dispatched per flight from San Francisco on PAA's Pacific route on the 48 flights of the year was 396 pounds, and the average amount received at San Francisco was 419 pounds.

Greatest mail mileage flown was by United Air Lines (8,968,861 miles); least mail mileage was flown by National Airlines System in Florida (177,965 miles).

### NEW PLANE CORP.

Will Build Factory On Land Leased From Miami

Miami, Dec. 10—The Miami city commission yesterday agreed to lease a site west of the Municipal Airport for \$1 a year to the B. L. Smith Corporation. The new corporation, headed by Major B. L. Smith, commander of the Marine contingent at the Opa-Locka Naval Reserve air base and engineer in charge of construction, will manufacture airplanes and accessories. The lease will run for 10 years.

Major Smith has built a model airplane of his own design, involving a new type of construction, details of which are not available at this time. The enterprise is locally capitalized.

The proposed factory site measures 200 by 300 feet and it is planned to construct a concrete building 60 by 100 feet. The land is tax exempt by Miami as long as it is used for municipal purposes. It is not known whether Hialeah, into which city the property extends, will assess taxes. Major Smith has pointed out that special state legislation exempts such industries as airplane factories until 1948.

### 2nd JOHNSON SUIT

Explorer Now Has \$706,000 Claims Pending Against WAE

Los Angeles, Dec. 23—Mrs. Osa Johnson, explorer and lecturer, yesterday filed a suit for \$204,000 against Western Air Express and United Airports Corp. of California for injuries to herself in an airplane crash last winter.

Mrs. Johnson has pending a suit for \$502,539 against the same companies for the death of her husband, Martin E. Johnson in the same accident. The \$204,000 action charged that Western Air Express was negligent in flying the plane at a dangerously low altitude.

## AIRLINES SAID TO FACE RECEIVERSHIP

Restrictions of Air Mail Act Blamed; Urges Enactment of McCarran-Lea Bill

With their reserve funds depleted, several important airlines face receivership within ninety days, according to the Interstate Airways Committee in a release to newspaper editors favoring enactment of the McCarran-Lea Air Carrier bill.

"American aviation is truly in a desperate plight," the release said. "Even with the record-breaking traffic of the third quarter, most of the airlines are operating in the red. Subsequent decline in business has brought more serious losses so that all airlines unquestionably will show heavy deficits for the year."

"Finding it almost impossible to secure new capital, the airlines are now slashing schedules, dismissing pilots, laying off ground personnel, and discontinuing routes. They are curtailing purchases of new equipment, going back to smaller planes on important routes, and cutting corners in every possible way. These facts can be verified at any local airport. Cities not yet affected are bound to lose service if this trend is allowed to continue."

"This situation has been caused principally by the paralyzing restrictions of the temporary Air Mail Act of 1934, which still is in effect. America's system of airways has been virtually frozen within the limited air mail route system. The airlines have been forbidden to open new routes which they were ready to fly when their business was upgraded. They have been condemned to profitless operation and instability by the Post Office Department."

The committee urges enactment of the McCarran-Lea bill to replace the outmoded Air Mail Act, supplanting Post Office regulation by I. C. C. regulation. Arthur S. Dudley, of Sacramento, is executive secretary of the committee.

### TWA UNIT WINS

Noel Davis Trophy Goes to Airline Reserve Unit

Kansas City, Dec. 13—The Noel Davis Trophy, awarded annually to the most efficient aviation division of the U. S. Naval Reserve, has been won for the second consecutive year by the First Aviation Division squadron VS-12R, known as the "Navy TWA Squadron."

This squadron, based at Fairfax Field near here, is said to be the only reserve service unit in the world whose officers are composed 100 per cent of pilots of one air transport concern.

Also awarded to the squadron was the Commandant's Cup, presented to the most efficient naval reserve air unit by the Commandant of the Ninth Naval District. In winning the trophy, the TWA unit chalked up a 100 per cent record for efficiency, having been designated first every year since it was founded in 1935.

Lieut. Commander D. W. Tomlinson, commanding officer of the unit, is assistant to Paul Richter, vice-president-operations of TWA.

### Smith Seeks Partnership

New York, Jan. 1—Bernard E. Smith, member of the New York Stock Exchange since 1926, has asked permission of the Exchange to become a partner in Thomson, McKinnon and Company. Smith is taking an active part in financing the distribution of Grumman Aircraft Engineering Corporation's new common stock issue.

## Objective Planning, Lower Cost Plane, Advocated by C. S. Doyle

Nebraska Aeronautics Director Says Nine Years of Ballyhoo Have Failed to Solve Aviation's Problem In 1937 Report

Nine years of ballyhoo have failed to bring a solution of aviation's economic problems, according to C. S. Doyle, director of aeronautics for Nebraska, in a year-end bulletin describing the status of aviation in that state.

"Objective planning for aviation is an imperative necessity," he said. "The ills affecting the healthy growth of aviation can easily be diagnosed by those of us who have been actively engaged in the industry."

Pointing out the need of a more suitable airplane and a solution to the problem of airports and landing fields, Mr. Doyle said Nebraska ended the year 1937 in which no resident commercial pilot was involved in a fatal accident—the second successive year—and showed "a greater gain in licensed airplane registration than any other state in the Union except Mississippi."

"We must encourage the development of a suitable, practical airplane within the economical reach of those interested in private air transportation," he said. "Only such an airplane will permit a widespread use of aircraft in private air transport. It must be of low cost, comfortable, simple of operation, and safe. It must be versatile in use."

"If we continue to accept what we have as final, we must also be willing to admit that we are engaged in a limited industry. The modern airplane, that will meet the demands of the average enthusiast, and which is equipped to meet current regulations in unrestricted use, costs more than a fine modern home, and costs more than two-thirds the average annual income to operate in a year of moderate use."

"National sentiment recognizes immediate physical needs for our civil airways. The Dingel bill, and S-2080 now on file in Congress, propose Federal financial assistance in the development of our civil airways. Nine years of spotted successes have failed to produce a complete system of adequate airports. Variance in local financial abilities, and a dearth of tangible benefits, have made it impossible to depend on local successes."

"The development of off-airway airports for private and miscellaneous use presents a greater problem. Again dependence on local successes proves futile. Of the forty-eight CWA projects, actuated by a vigorous promotional program in 1933, only seven new fields remain. The towns, in time of dire financial need, could not see justice in the expenditure of \$500 a year for the maintenance of a landing field where no airplane ever landed; and where no justifying tangible benefits were forthcoming."

"In time of affluency, intangibles are marketable. In times of financial stress only tangibles can be sold. If a suitable and adequate system of landing fields, for private and miscellaneous operations is to be developed in this state, an equitable distribution of the financial burden must evolve."

Mr. Doyle expressed satisfaction at the educational program for aviation, the safety record being made, the development of civil airways, but stressed the fact that "we must work out an objective plan for the provision of immediate physical needs."

### 3 of TWA's Pilots Have Racing History

Three of TWA's pilots were formerly racing pilots, all of them holding records of one kind and another. They are Robert D. Buck, Harold Neumann and Roger Don Rae.

Buck is now 23 and has been flying since he was sixteen. His junior record of fourteen and one-half hours from New York to Havana, made in 1931, still stands. He made another junior record of twenty-two hours and four minutes from New York to Mexico City and twenty hours to Los Angeles.

Harold Neumann was champion racing pilot for 1935, having won the Thompson Trophy races at Cleveland and placing high in other events. He was "second money" winner in 1936 in a ship he helped to design. Neumann was one of the best known racing pilots in the country.

Rae was champion racing pilot in 1936 and held the Freddie Lund trophy for precision acrobatic flying in 1934 and 1935 and for the past seven years has held the national spot parachute jumping championship. At the 1937 National Races he took five second places and one fourth in closed course races.

### Trans-Canada Hangars Ready in 4 Months

New York, Dec. 10—Trans-Canada Air Lines expects to complete construction of hangars at Winnipeg and Lethbridge within the next four months, according to S. J. Hungerford, president of the company. He stated that the hangars are being designed for expansion so that they will not become obsolete as larger aircraft come into use.

The hangars will be approximately 100 feet long by 150 feet wide with a clearance under the trusses of 27 feet. The design makes possible simple enlargement to give a clear opening of 200 feet without obstruction within the building.

Framework of the buildings will be of structural steel with exterior walls of masonry, insulated sheet metal and continuous sash and roofs of wood sheathing laid on wood puffs. A concrete apron 100 feet by 100 feet will be laid in front of each hangar. Doors will be of the large canopy type, 90 feet wide and 27 feet high.

An administration building and workshop is also to be erected at Winnipeg. The Austin Company, Ltd. of Toronto has been awarded the construction contract and architects of the Canadian National Railroad will supervise the work.

Work on the Winnipeg hangar has been started and it will begin at Lethbridge shortly. The former hangar will be located on Stevenson Field on land leased from the city and the latter structure on suitable property leased from the city of Lethbridge.

### AUTHORITY BACKS AIRPORT CHANGES

Hopes to Make New York Terminal Point of Trans-Atlantic Operations

New York, D.C. 6—The Port of New York Authority yesterday submitted to Governors Herbert H. Lehman, of New York, and Harold G. Hoffman, of New Jersey, four measures designed to insure this area's position as a terminal point when trans-Atlantic airplane or airship service begins.

The Authority presented the following recommendations:

1. Extension of runways at the principal publicly-owned airports to 5,000 feet, to permit use by overseas planes as well as domestic superliners.

2. Development of North Beach Airport as a base for trans-Atlantic planes, with such runways.

3. Construction by New York City of a mooring mast for dirigibles at Floyd Bennett Field to provide a station stop, regardless of where airship companies may build their base.

4. Purchase by New Jersey of suitable acreage in the Passaic River Valley, west of the second Watchung Mountain range, for a future dirigible base.

Trans-Atlantic air service, the report said, is likely to be inaugurated within two or three years provided the government assists with postal contracts and subsidies, and provided that the countries affected give planes permission to pass over them. Because trans-Atlantic terminals cannot be developed on a self-supporting basis, such a project would not be suitable for a Port Authority undertaking.

Terminals, the Authority believes, should be developed at points offering greatest flexibility because of the unsettled questions of choice of routes and of employment of landplanes or seaplanes.

The report recommends separation of heavier-than-air and lighter-than-air bases, stating that mooring masts and hangars required by the latter type would interfere with the gliding angle of planes.

If New York is to be a port of call for dirigibles the Authority believes Floyd Bennett Field would be the best stop. If a permanent airship base is required in the metropolitan area, the Passaic River Valley is recommended.

"If future flights are confined to a seven months' period, between May and November, the New York climatic zone appears to be generally satisfactory from a weather standpoint for landing operations," the report said.

### Burton Appointed Pilot

Edmonton, Alberta, Dec. 22—Frank Burton, commercial pilot and engineer with the Edmonton and Northern Alberta Aero Club for the past nine years, has been appointed pilot for Northern Airways, to fly out of Carcross, Yukon, it was announced yesterday.

### INCREASED LOAD FACTORS

CONTINENTAL'S one-way and round-trip fares at Rail Costs are making new friends every day for air travel. A definite increase in revenue during the winter season is a natural result.

### CONTINENTAL AIR LINES, INC.

Municipal Airport—Denver  
The Sunshine Route

### American Gets Plaque



C. R. Smith (right), president of American Airlines, Inc., receiving a plaque from the Louisville and Jefferson County Air Board in recognition of the services rendered by the company during the time of the Louisville flood of 1937. Left to right: William L. Kammerer, who was in charge of all transportation during the flood period; D. A. McConnell, station manager at Louisville for American Airlines; Hugh L. Smith, operations manager, and C. R. Smith.



## Jackson Urges BAC Operate and Own Instrument Landing Systems

Says One More Year of Development Necessary Before Use Is Practical in Report on Status of Blind Flying Development

While instrument landing system equipment which can be produced at this time is considered satisfactory for practical use by the airlines, "it is believed that a year's further development would add much in the way of reliability and ease of maintenance," according to W. E. Jackson, chief of the radio development section of the Bureau of Air Commerce in a report just issued entitled "The Status of Instrument Landing Systems."

Mr. Jackson said he believes that because of the expense involved and because standardization and coordination is necessary, instrument landing systems "should be installed and operated by the Bureau of Air Commerce." He recommends that the Bureau should sponsor further development in the industry.

Copies of the report may be obtained by writing to the radio development section, Bureau of Air Commerce, Department of Commerce, Washington, D. C. The report is a comprehensive description of all types of instrument landing systems, including those of the Army and the Lorenz system in Europe and is highly readable. It is the first such report ever to be published. It is distributed without charge.

Pointing out that the airlines are planning to install a number of instrument landing systems for purposes of pilot training, Mr. Jackson said the ultimate use of these systems will contribute to the solution of airways traffic control problems by allowing faster dispatching and landing of transports at busy terminals.

"With the increasing number of aircraft being dispatched to and from airports under conditions of restricted ceilings and visibility," he said, "the air traffic problem is becoming more acute. Under present conditions at a well regulated traffic center, each airplane is allowed a maximum of 15 minutes for landing under the worst possible conditions. It is believed that an instrument landing system would contribute to the solution of the airways traffic control problem by reason of the fact that more ships could be landed and dispatched per hour at a busy terminal during bad weather conditions."

"An instrument landing system would relieve the present 'bottle-neck' by reducing the time required for landings as it would furnish the pilot with precise indications of the proper course and glide path down to the point of contact with the runway."

In his conclusion Mr. Jackson said the most satisfactory instrument landing system is one that uses ultra-high frequencies. These frequencies have the outstanding advantages of being practically free from atmospheric disturbances and of utilizing smaller and more efficient antennas for both plane and ground. Mr. Jackson said he advocated installation and operation of these systems by the Bureau on an experimental basis at various airports after development work had progressed a little further, and that when this experimentation had been completed he recommends the Bureau carry out "a long range program of blind landing development and improvement similar to the program which has been followed with regard to development and improvement of radio ranges."

## 11 Flight Surgeons Awarded Diplomas

San Antonio, Texas, Nov. 14—Eleven graduates of the School of Aviation Medicine at Randolph Field received diplomas here yesterday, becoming flight surgeons on completion of a four-month course.

The following were awarded diplomas: Capt. John R. Copenhagen, Kelly Field; Capt. Burt Held, Barksdale Field, La.; Capt. Paul H. Jenkins, Maxwell Field, Ala.; Capt. Frank H. Lane, Langley Field, Va., and Capt. Donald D. Flickinger, March Field, Calif., all of the United States Army Medical Corps; Lieut. Thomas L. Allman, Pearl Harbor, Hawaii; Lieut. Alfred W. Eyer, St. Thomas, Virgin Islands; Lieut. James C. Flemming, Naval Air Station, San Diego, Calif., and Lieut. William O. Fowler, USS Yorktown, Norfolk, Va.

Capt. Frederick Miller, National Guard, Washington and Capt. Daniel F. Stough, Medical Corps Reserve, Geary, Okla., also received diplomas. They joined the class Oct. 1 for six weeks of practical work after completing the school's correspondence course.

Two basic courses, starting July 15 and Dec. 1 each year, and each lasting four months, are given at Randolph Field. In addition, an extension course in aviation medicine by correspondence is given. This course now has an enrollment of 461.

## Engines in Good Shape

Pittsburgh, Pa., Dec. 10—Eastern Air Lines will request the Department of Commerce to extend the period between major overhauls of its engines from 525 hours to 600 hours because of their excellent maintenance record, according to T. H. "Doc" Kinkade, lubricating engineer of the Gulf Oil Corp., who recently inspected EAL engines being overhauled at the Miami shops. "I have seen engines that have been run more than 500 hours between major overhauls," Kinkade said, "but never any that were as clean and free from wear as these three that I saw. No major parts needed replacement."

## Only Woman Airport Manager Resigns at Key West; PAA Offsets Baker's Plans

Key West, Dec. 4—Betty Maloney, only woman airport manager in the world handling scheduled airline operations, has resigned as manager of the Key West airport. She had been on the payroll of Miami-Key West Airways, owned and operated by Pan-American Airways.

The resignation was the latest in a series of incidents which has beset airline operations into Key West. A few months ago announcement was made that air service would be discontinued and the barge which served as the seaplane base was sold and carted away. Then Pan-Am. got wind that G. T. Baker, president of National Airlines System, planned to operate a Miami-Key West service and a service from there to Havana.

Pan-Am. quickly reversed its plans and continued to operate to Key West, but using amphibians which are now using Key West's landing field, which is in bad condition.

## Anti-Static Hoop



Tubular metal hoop, five feet in diameter, now being tested by United Air Lines to eliminate static from ground station reception of plane-ground radio signals. The loop antenna was developed at the Cheyenne station. The loop casing is aluminum and the antenna itself consists of a single strand of 1/16 inch copper wire which is supported inside the loop by a series of porcelain beads. According to J. R. Cunningham, director of communications for UAL, this is the first static suppression device for ground use.

## Large Airports

Boulder City and Grand Canyon to Have 6-7,000-Foot Runways

With the cooperation of the Department of the Interior, the Grand Canyon-Boulder Dam national park areas will be provided with two of the finest airports in the country, according to G. E. Ruckstell, president of Grand Canyon-Boulder Dam Tours, Inc., who holds the sightseeing concessions for the area.

The shortest runway at Grand Canyon Airport, which has an altitude of almost 7,000 feet, will be 7,000 feet, with gliding ratios of 20 to 1 for all runways. Improvements are now under way and will be completed in the spring. At Boulder City, Nev., three runways of 6,000 feet each are now under construction which will make this airport one of the largest and most complete fields in that section of the country.

## ARMY TRAINS ON LANDING SYSTEM

Hegenberger Units Installed at 11 Fields; Instruction Given at Wright Field

Dayton, Ohio, Dec. 23—Three officers and six enlisted men in the Army Air Corps have been receiving instruction here in the standard Air Corps instrument landing system, developed several years ago under the direction of Major Albert F. Hegenberger.

The system has been installed at 11 fields in the United States and also at six fields located in the Philippine Islands, Hawaii, and Panama. The fields in the United States are: Langley Field, Va.; Mitchel Field, Long Island; Barksdale Field, Shreveport, La.; Selfridge Field, Mt. Clemens, Mich.; Hamilton Field, San Rafael, Calif.; Kelly Field, San Antonio, Texas; March Field, Riverside, Calif.; Chanute Field, Rantoul, Ill.; Brooks Field, San Antonio, Texas; Maxwell Field, Montgomery, Ala., and Randolph Field, San Antonio, Texas.

Names of the fields outside the continental United States are not available because it is the policy of the Air Corps to keep these secret.

The purpose of the classes, which are under the direction of Major C. M. Cummings with Capt. G. V. Holloman serving as instructor, is to train certain pilots and enlisted men in order that they may in turn act as instructors to their own tactical organizations. Only the officers, who are Air Corps pilots, will receive the instrument flight and landing instructions. The enlisted men's course will cover maintenance and operation of the equipment.

The student receives his first four hours' instruction in the Air Corps instrument flying and landing trainer. He is then ready to attempt the hooded cockpit in actual flight and later is allowed to make a blind landing.

Air Corps experience has shown that the greatest step is taken when the student accomplishes his first blind landing. This involves a certain psychological adjustment in which the human senses are replaced completely with "instrument senses."

## Vultee Deliveries Up

Los Angeles, Dec. 18—Vultee Aircraft division of Aircraft Manufacturing Corp. has announced deliveries amounting to \$1,412,000 for the fiscal year ended Nov. 30, last, compared with \$975,500 for the preceding year. The company's present backlog is approximately \$5,520,000, sufficient to keep the plant operating at top speed for 12 months.

## Your Best Travel BUY is BY Braniff

Get there first and get the business! Braniff Airways with its dual fleet of Douglas and Electra B-Liners offers a luxurious and convenient service. The comfortable cabins of Braniff B-Liners provide for each passenger an individual, completely adjustable seat, full-view window, individual ventilation, ash trays and reading lights. All transcontinental airlines connect with Braniff Airways to and from the great Southwest and Mexico. For reservations and information, call your favorite travel agent, airline, telegraph company or Braniff Airways.



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Brownsville  
Wichita Falls  
Amarillo

# Reno Weddings \$60 and Up

**A Modest Account of the Difficulties of Keeping Two Feet On the Floor With the Originator of Plane Hostesses and Dollar-Down Marriages**

By W. W. P.

I WAS told that I should not go through San Francisco without seeing Steve Stimpson. I was told that once I had made Steve's acquaintance I probably would end up by being pulled out from under a table and carried onto my plane. I was told that no person alive had so far resisted the spell of Steve as the perfect host and that the only things really known about Steve were hazy liquid recollections of having been entertained by him.

Steve Stimpson was a legend before I first laid eyes on him. I might say that he's still a legend. Even after seeing Steve, he is still an incredible and unbelievable character out of fiction. He is a page out of history, of the days when knighthood was in flower and chivalry was the code of gentlemen. He is as much a part of San Francisco as the cobblestones on the Bay Front streets, the cable cars and Chinatown. In his proper setting, Steve is the prince of major domos, the king of all masters of ceremonies. He is San Francisco and United Air Lines put together, and without Steve, San Francisco would be just an interesting metropolis architecturally and United Air Lines would be just another bunch of goofies defying the laws of gravity with oodles of empty seats.

Steve is just turned forty but has the suavity and poise of a millionaire sportsman whose dominating personality keeps him always the center of attraction. He has all the hallmarks of a professional salon entertainer who is never at his wits end, who never fails to get out of a spot, whose agile mind is always a few seconds ahead of the pack. Ingratiating to an extreme, his convivial terms of friendship never stoop to the patter of the street. His language is flamboyantly Mid-Victorian, his accents polished, his greetings refreshingly Dickensian.

When I arrived in San Francisco I went at once to United Air Lines' office, not being naive enough to expect to find him there but knowing that I could find directions. Sure



Steve Stimpson  
Raconteur, Gourmet, Host

enough, Steve was at Sorelli's, around the corner, an Italian restaurant with two bars with just the kind of color and service which Steve Stimpson could command. It was afternoon. Steve was master of all he surveyed while his companion of the moment was staggering pitifully. But I noted at once that the companion, though staggering badly, was mumbling the praises of United Air Lines and "my great pal Stimpson."

## The Master at Work

I shall never forget that afternoon at Sorelli's. Among those present was the great magician, Mazzini, like everyone else a friend of long-standing of Steve Stimpson. How I resisted Steve's hypnotic domination is a matter of mystery except that I resolved to watch this bird in action at any cost. Had I

partaken of one-tenth of the liquid refreshment set before me, I should have floated out of Sorelli's onto the cablecar tracks. For three hours Steve played the part of the carefree host. The victims of his smiles were legion. The great Mazzini performed trick after trick, and after each one Steve would take Mazzini's bald head in hands and kiss it with great flourish. Poor Mazzini, he doesn't know there are other airlines in the United States. To Mazzini, United is air transportation and Steve Stimpson to him is United.

I sat at the bar stool in awe and wonderment. I have seen many high-pressure boys at work, but Steve could not be classified as high-pressure. Through sober eyes, Steve was a facile, subtle super-salesman. Through liquid eyes, Steve was an irresponsible hail-fellow-well-met who seemingly had nothing to do but entertain his friends—and every new person he meets is a friend.

His dress is in perfect taste. He has never been known to be without a dark red carnation in his lapel. Though he orders drinks in quick succession, he has never been known

of loyal employees, of salesmanship.

There is no one like Steve Stimpson. He merits a complete biography in himself. The legend that has grown up about him should some day be told, but much of it cannot be told today. There are stories of airlines trying to break into the San Francisco air traffic and being literally swallowed up by Steve before their representatives knew what it was all about. There are stories—well, let's leave them for a future historian. There are some who would like to have Steve's biography entitled "The Gracious Deceiver" but there are none who would leave out the word "Gracious."

Steve has probably broken more rules as traffic manager for United than any traffic manager for any transportation company in the world, but Steve Stimpson doesn't live according to mimeographed rules. No one in United's Chicago office would have the brass to tell Steve how to get more business. For he has been the pacesetter for the line for ten years. From Steve's office in San Francisco have graduated many of United's best traffic managers. Although the Chicago office would hesitate to admit the fact, the



Promotion Blurb for Steve's Reno Wedding Idea

to let one get him down. What he does with them is not a matter of record, but he must put four out of five in his vest pocket.

He reminded me of a band leader who kept marching and swinging his baton with great gusto while the players, one by one, fell into the gutter—all the time mumbling the praises of "My pal Stimpson."

## Behind the Veneer

But behind what must seem endless days of entertaining is a Steve Stimpson who is one of the most able traffic managers any airline in this country will ever have. What the boys at the bar did not notice—the boys who were readily hypnotized to Steve's grandiose good fellowship—was that Steve disappeared for moments at a time to the telephone, or to confer with one of the men from his office. For the truth is that while Steve's shows go on and on, behind the scenes the traffic machinery moves like clockwork. Steve is a master mind of detail. At no minute of the day is he actually away from the activities of his office. His gallant conviviality is grossly misleading. Behind the "front" is a genius of ideas, of executive direction.

truth is that Steve is pretty much his own boss in San Francisco and United knows too much to ever want to change his status.

## Statistics Show Results

Statistically, Steve has meant much to United. Passenger receipts in San Francisco have exceeded those of either New York or Chicago for a long time. To go back into Steve's history a bit, he spent two years with the Army Engineers in France during the War, achieving the rank of Captain, although there is little of the Army days left in Steve's present day mannerisms. He became interested in transportation and became traffic manager for the Dollar Steamship Lines, serving both in the San Francisco and Japanese offices. Those seven years served Steve well in his present capacity, and some day those seven years should be put into print. He knew old Capt. Dollar well. On returning to the United States, Steve saw the possibilities of air transportation and became traffic manager for the Maddox Air Lines, then in its infancy. When United took over Maddox, Steve took over the San Francisco offices.

For several reasons Steve Stimpson



Remember them? These are the first and original airline hostesses, fruition of Steve Stimpson's fertile mind. They flew between San Francisco and Chicago in 1930. The first chief stewardess, Miss Ellen Church, is third from the left, and is now a teaching supervisor, Milwaukee County Hospital.



## Calif. Will Deny It, But Douglas Installs "Hot Floor" Heating Unit

Santa Monica, Calif., Dec. 30—Although in use last winter, first details of the unique heating system installed by the Douglas Aircraft Corporation in its 300 by 300 feet assembly hangar have just been made available. Used only four months out of each year the heating system provides an even temperature of between 80 and 85 degrees without using any floor space and with maintenance costs far below any other type of heating.

Details of the system have been kept secret until it had proved its worth—not to mention the reluctance of any Southern California institution to admit that a heating plant is necessary in that region. Harry Wetzel, vice-president and general manager of Douglas, said the company was anxious to have the system fully tested before telling about it.

L. N. Davis, plant engineer, explained that the assembly hangar has a ninety-foot ceiling and 8,000,000 cubic feet of air to be heated. Clear floor space was necessary and pillars had been successfully eliminated in construction. Gas heaters along the walls were first considered but in addition to costing \$10,000 for installation, they would not provide even temperature and would not be able to heat the center of the structure. A steam plant was found impractical for it not only cost \$38,000 to install but would require valuable floor space for radiators.

So a "hot floor" system was decided upon, which meant a \$5,000 initial cost and low operating expense. Approximately 53,000 feet of resistance wire, strung through conduits, was sunk into the concrete floor of the mammoth hangar. Each loop of resistance wire is 300 feet long, extending from the wall to the center of the building, a distance of 150 feet. On this wire, spaced at regular intervals, are porcelain beads which act as insulators. The wire and beads are encased on three-

quarter inch metal conduit which has been filled with transil oil. This prevents any air entering the conduits and takes care of the very slight wastage. The conduit is sunk into the six-inch concrete floor in parallel lines at intervals of 21 inches.

The 80-degree temperature, Mr. Davis said, is not too hot for the feet of the workmen as it might appear to be. On a test the floor was heated to 85 degrees and thermometers suspended above it at various heights of from one to six feet. At one foot the drop was five degrees. At two feet it was nine degrees and at six feet a drop of 19 degrees was shown.

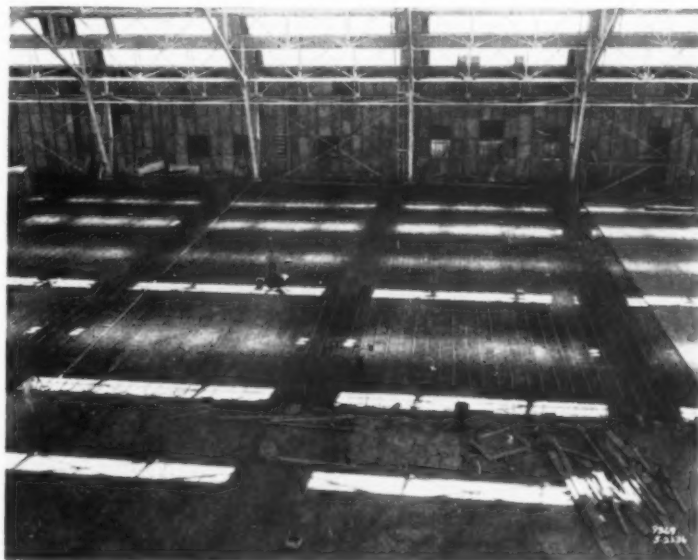
Substantial savings in power costs have been made by building up the heat between midnight and 7 a. m.,

when power is not being used in other parts of the factory. Mr. Davis said the "hot floor" system eliminates fire hazard, is easy to install, has low maintenance cost, requires no useable space, eliminates drafts and is comfortable for employees, keeps tools warm and easy to handle, distributes heat evenly, requires no special attendant, the concrete and earth stores the heat, and operates on off-peak power loads.

### Personals

Eddie J. Kline, Chicago & Southern mechanic at New Orleans, and Delmar Sage, radio maintenance mechanic for American Airlines at Chicago, have been elected vice-presidents of the Air Line Mechanics Association, representing the mechanics of their respective airlines.

L. J. Specht, who recently resigned from Eastern Air Lines as a mechanic at Houston, has accepted a position with the United Fruit Company, Honduras, Central America.



Laying the Resistance Wire Conduits in the Douglas Plant

has a place in aviation history. For one thing he urged the placing of passenger seats in mail planes before the days of commercial aviation. He was at the forefront of air passenger travel. But what he will be noted for in the history books is the stewardess idea. It was Steve who originated the idea in 1930 of having stewardesses on airplanes. He reasoned that nothing would so impress air safety on the public as nonchalant girls flying constantly, that men would feel ashamed to be afraid in their presence. In May of 1930 Boeing Air Transport (predecessor of UAL), hired eight hostesses. Today there are 270 hostesses in the United States, flying daily on United, American, TWA, Braniff, Northwest and Western Air Express.

#### Reno Weddings 1 & 2

Steve's prolific mind has also generated another bell ringer in his promotion of "All Expense Weddings to Reno." It keeps a steady flow of passengers on UAL's San Francisco-Reno shuttle and while it must have caused grave misgivings among the more staid executives of the airline, it has paid out well in dollars and cents. Only Steve could have put it across.

Believe it or not, but United has a No. 1 all-expense wedding and a No. 2 all-expense wedding. For example, the wedding couple gets with a No. 1 wedding, airline passage to Reno and return, with everything paid for two people including transportation to and from fields, air fares, Reno

license, a minister, flowers, etc.—all for \$60. But for the No. 2 wedding, the couple gets all the above plus a wedding breakfast for two, a room in the Hotel Riverdale, Golden or El Cortez, all for \$75.

Steve's promotional literature is featured by an arrow piercing two hearts with the caption, "One and a half hours to Reno," and with this come-on listed also:

Getting married the modern way  
Cast: The bride and groom  
Scenery: The Sacramento Valley, the Majestic Sierras and Lake Tahoe.  
Services: The County Court House and Justice of the Peace, Reno  
Locale: The Hotels, Riverside, Golden or El Cortez, Reno  
Transportation: United Air Lines

Perhaps it isn't the most subtle advertising in the world, but the romantic young couples of San Francisco fall for it in a big way. What counts to Steve is the traffic business in dollars and cents. No one else would have the nerve to capitalize to such a large extent on the holy bond of matrimony.

#### "The Gracious Deceiver"

In civic life, Steve stands out. He numbers among his close and personal friends many of the city's great. He maintains membership in a whole gallery of organizations: Downtown Association, Chamber of Commerce, Junior Chamber of Commerce, American Legion, Press Club, Sons of American Revolution, Army Reserve,

National Association of Footprinters, and is an honorary member of the San Francisco Traffic Police Revolver Club. His favorite sports are shooting and fishing. Last year he hooked a 32-pound trout, the largest ever caught in Pyramid Lake near Reno.

So beneath the deceiving veneer of never-ending revelry is a man shrewd in the ways of salesmanship for transportation. To Steve there is only one airline and that is United. He knows almost nothing about the United States east of the Rockies (he's been in Washington only once) but in San Francisco he knows all there is to know. He is loyal to his friends, his company and his city. Perhaps the secret of his success is selection of his employees. He works them hard, but they learn to respect him, to follow out his every wish. On the surface he is a one-man show. But below is a water-tight organization functioning every minute of the day and night. His trusted assistant for seven years is Emery Johnson. It is probably true of Steve's employees that most of them would go to hell and back for him.

Never to have been with Steve Stimpson is to have missed half a lifetime, i.e., if you take the time to observe him in action dispassionately. If you really know him, you also know that he is the incredible and the unbelievable, worth his weight in gold as "the Gracious Deceiver."

### SPEEDSTER SALES BEGIN

#### Good Record Set at Miami; Troy Gets First

Kansas City, Kan., Dec. 15—The Rearwin Speedster Model 6000M powered with the Menasco C4 125 h.p. motor is now in production, according to Kenneth Rearwin, and deliveries are being made. First Speedster delivery was to Troy Air Service, Troy, N. Y., with second and third to African Flying Service, Johannesburg, South Africa.

The company was pleased at the performance of the Speedster at the Miami air maneuvers. A standard model, except for wheel pants, was officially clocked at an average speed of 149.7 miles an hour in a 30-mile course event. A Sportster equipped with Edo floats was shipped recently to Tri American Aviation, Buenos Aires. Sportster deliveries have held up strongly during the fall and early winter season.

#### Torrey Gets Bidwell Field

Red Bluff, Calif., Dec. 15—Ben Torrey, veteran California operator, has been awarded a ten-year lease on Bidwell Field, Red Bluff's municipal airport. For over ten years Torrey has managed Woodson Field at Corning for Warren N. Woodson, the owner.

#### Leases Salem Airport

Salem, Ore., Dec. 21—Leo Arany succeeded today Lee U. Eyerly as lessee and manager of the Salem Municipal Airport following acceptance last night by the city council of Arany's bid of \$600 a year. Eyerly paid \$300 for last year's lease. He will continue to use hangar space at the field.



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Ideal For Year 'Round  
Flying

"The Valley Level Route"  
to  
Southern Points and the  
Gulf Coast

Chicago and Southern  
Air Lines Inc.



## CONTINENTAL HAS NEW 50 HP MOTOR

4-Cylinder Engine is For Light Planes.  
Replacing A-40 Series Now in Use

Continental Motors Corporation has announced development of a 50-horsepower, horizontally opposed, aircooled, four-cylinder engine for use in small airplanes. The new engine, known as the Continental A-50 series 1, 2 and 3, will supplement the A-40 engines now used in Cubs, Taylorcrafts, Aeroncas and other light planes.

The A-50 series 1 has a minimum of accessories, namely, one Scintilla magneto, a pressure oil pump and tachometer drive. It has a dry sump with gravity scavenging. The A-50 series 2 provides for a full list of accessories, such as dual battery ignition from Auto-Lite or Scintilla, drives for Eclipse starters and Eclipse or Auto-Lite generator, both scavenge and pressure oil pumps, an A. C. automotive fuel pump, radio shielding and tachometer drive. The A-50 series 3 is equipped with two Scintilla magnetos for export requirements, but otherwise is similar to the series 1.

Improved mechanical features claimed by the manufacturer include hydraulic tappets, automatic engine lubrication, complete sealed enclosure against oil leakage and fumes making possible airplane engine cleanliness, and improved cooling of the engine under adverse conditions.

The new engine develops 50 horsepower at 1,900 RPM. Total fuel consumption at 50 horsepower is  $4\frac{1}{2}$  gallons per hour. Cruising at 85 per cent level flight RPM will reduce the consumption to 11 quarts per hour. Oil consumption of less than one pint an hour is claimed.

Weight of the A-50 engines is substantially the same as the A-40s, thus making possible the installation of the former series in the present small airplanes.

General specifications of the A-50 are as follows:

Continental A-50—Direct drive.  
Type: Aircooled, two-bank, horizontally opposed.  
Number of Cylinders: 4.  
Bore: 3-7/8 inches.  
Stroke: 3-5/8 inches.  
Displacement: 171 cu. in.  
Compression Ratio: 5.4 to 1.  
Fuel: Gasoline 65 octane minimum 70 octane or better recommended.  
Power Ratings: 50 horsepower at 1900 RPM.  
Weight: 150 pounds (Series 1).  
Length Overall: 30-13/32 inches (Series 1).  
Width: 31-11/16 inches (All series).  
Height: 23 inches (All series).  
Mount Bolt Centers: 7 inches width upper, 10-1/2 inches width lower, 11-9/16 inches height.

It is expected that the A-50 will be made available for delivery early this year. At present it is undergoing factory tests. Application is being made to the Bureau of Air Commerce for Approved Type Certificates.

**Aeronca Sales Up 103%**  
Cincinnati, O., Dec. 7—J. C. Welsch, sales manager of the Aeronautical Corporation of America reports that sales of Aeronca airplanes for 1937 increased 103% over last year's total. The year got off to a good start with substantial sales at the New York show. Recent deliveries include a carload of Aeroncas for the Washington Aircraft and Transport Corp., Seattle, and a carload bound for Joe Plosser, Aeronca distributor at Grand Central Air Terminal, Glendale, Calif. The Canadian distributor, General Aircraft Dealers, Ontario, report that some of its Aeroncas will be equipped with skis in the winter months.

## Mechanics Sign Delta Agreement, Win Bargaining Rights With EAL

Delta Air Lines has signed an agreement with the Air Line Mechanics' Association, effecting substantial pay increases as of January 1, and the National Mediation Board has certified the association as the sole bargaining representative of the aircraft mechanics of Eastern Air Lines.

The Delta agreement was reached following conferences and places the mechanics of that line on a parity with mechanics on other airlines with which agreements have been made. Every mechanic on Delta is a member of the ALMA.

Conferences with Eastern Air Lines were to start immediately, following the recent decision of the Mediation Board. The ALMA maintained it represented a majority of EAL mechanics in September, but EAL management refused to recognize this claim, stating that the Eastern Air Lines Em-

ployees' Association held the right of representation. On October 30 the ALMA petitioned the Mediation Board to settle the dispute and a conference was held November 29 and 30 and December 1 in New York, with A. P. Martin and Hope Biggers, president and vice-president, respectively, of the ALMA, representing that organization. An election was held and votes tabulated on December 16, with the ALMA winning by a substantial margin.

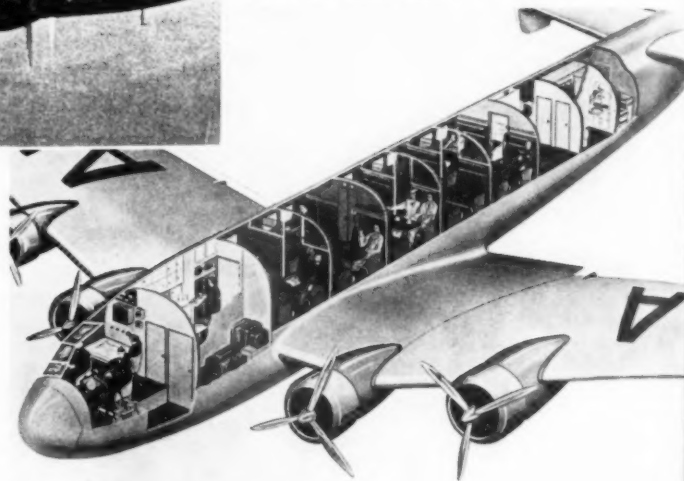
"A new agreement is being presented to the management of Eastern Air Lines immediately," Mr. Martin said, "and it is hoped that negotiations will be entered into promptly."

## Consolidated Dividend

Consolidated Aircraft Corporation on Dec. 27 paid an initial dividend of 50 cents on the common stock to stock of record Dec. 20.

## The Reich's Rival to the Douglas DC-4 and the 4-Engined Boeing

Germany's contender in the 40-passenger transport class is this cigar-like four-engined Junkers 90, "The Great Dessauer", claiming a cruising speed of 217 miles per hour and top speed of 242 miles per hour. It has a cruising range of about 1200 miles. Cut-away drawing shows special compartment for smoking, with five sections holding eight passengers each. Photos from European.



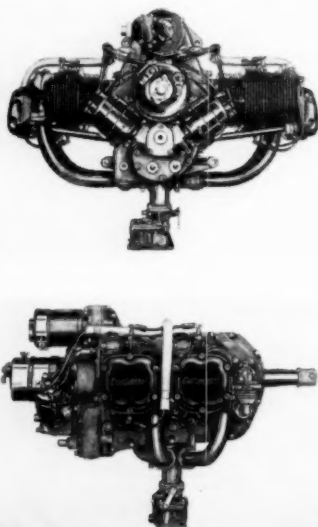
## ST. PAUL AIRPORT

Bond Issue Passage Paves Way to Big Enlargement

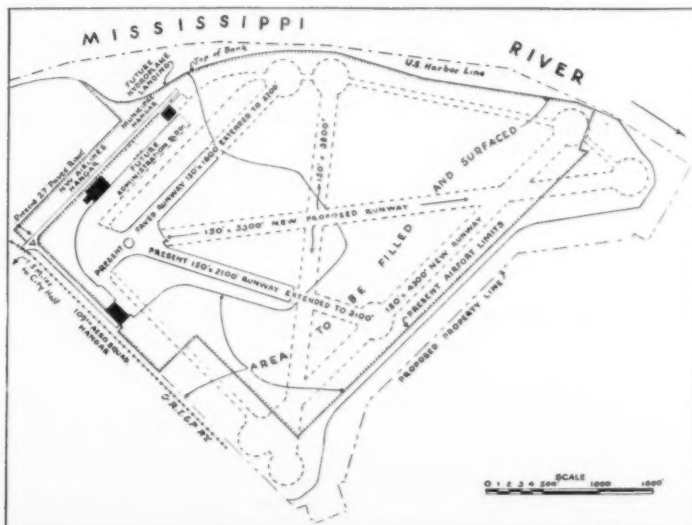
St. Paul, Minn., Dec. 8—Enlargement of Holman Municipal Airport to one of the finest fields in the country has been made possible by the passage of a \$435,000 bond issue on Nov. 16 at a special election held in St. Paul.

An application will be made to the federal government for a grant of \$1,394,000 under a WPA program. "When this program is completed, St. Paul should have one of the outstanding air terminals in the country, being located only one and a half miles from the center of the business district," according to F. J. Geng, airport director.

The enlargement program calls for one main runway of 5300 feet, a second runway of 4300 feet, a third of 2700 feet and a fourth, 2100 feet. The longest runway at present is 2100 feet. A large area adjoining the present field will be filled and surfaced. A new administration building is also contemplated.



Two views of the Continental A-50 Series



Plan of St. Paul's Holman Airport Showing Present and Proposed Sizes.



## Thirteen States Give No Refunds or Exemptions on Av. Gas Taxes

### American Petroleum Institute Supplies State-by-State Tabulation Showing Status of Aviation Gas Taxation

In response to numerous inquiries concerning the status of aviation gasoline taxes, AMERICAN AVIATION presents herewith a complete summary of the tax situation by states. The table and notes were supplied by the American Petroleum Institute, New York City, which keeps close watch on all taxes on motor fuels.

"As far as we have been able to determine," the Institute said, "aviation gasoline, as such, is taxed specifically by only a few states. Most states in which it is taxed either tax it at the full rate applicable to motor fuel or grant a refund or exemption of part of the full rate.

"The enclosed analysis shows in the first column the full rate as applicable to motor fuel in the state. In the other columns and the explanatory notes you will find what portion, if any, of the regular rate is applied against aviation gasoline.

"We have found it impossible to determine fully the disposition of funds collected by states from aviation gasoline taxes. The analysis of disposition of state motor fuel tax receipts for 1936, prepared by the U. S. Bureau of Public Roads, shows that a few states used relatively small amounts of their gasoline revenue for aviation purposes.

"These states are: Florida, \$22,000; Pennsylvania, \$121,000; Tennessee, \$2,000; and Virginia, \$4,000.

"Of course, aviation gasoline is subject to the duplicating federal gasoline tax of one cent per gallon. The federal tax is applied no matter what the gasoline is used for and the revenues therefrom are applied to general purposes."

The table shows that the following states tax aviation gasoline and make no exemptions or refunds: Alabama, Georgia, Idaho, Kentucky, Louisiana, Nebraska, Oregon, Pennsylvania, South Carolina, Tennessee, Utah, Vermont and West Virginia.

The table is correct as of October 26, 1937.

#### A. A. and Braniff Cut

Oklahoma City, Dec. 12—American Airlines yesterday closed its division traffic office here and eliminated one of its north-south flights through Oklahoma City. Melvin D. Miller, general supervisor of sales for American, stated that the shutdown is seasonal and that the traffic office will be opened in the spring. Braniff Airways eliminated one flight Nov. 16.

#### B-M Changes Schedule

Boston, Dec. 23—A change of an hour in the schedule of the morning plane from Montreal to Boston was announced yesterday by Boston-Maine-Central Vermont Airways. The change is made in order to provide a later leaving time for businessmen. Under the new schedules the plane will leave Montreal at 9:00 a. m., arriving in Boston at 11:11 a. m.

#### \$37,690 Airport Grant

East Hampton, N. Y., Nov. 25—A total of \$37,690 was allotted yesterday by the Bureau of Air Commerce for construction of a roadway, taxi strips and extension of runways at East Hampton Airport.

#### UAL Into Monterey

Monterey, Calif., Dec. 1—Monterey officials said today they had received a letter from S. A. Stimpson, United Air Lines district traffic manager at San Francisco, stating that United was very much interested in making Monterey a stop on its Pacific Coast route and hoping that United would "be using the Monterey airport when conditions generally permit."

### Status of Aviation Gas Taxes

#### Motor Vehicle Fuels—Exemptions or Refunds for Fuel Used in Airplanes

State	Tax Rate (Cents)	Exemption and/or Refunds for Motor Fuel Used in Airplanes	
		(1) Provided in general terms	(2) Specifically mentions aircraft
Alabama	6		
Arizona	5	Refund (1)	
Arkansas	6½		Exemption (2)
California	3	Refund (1)	
Colorado	4	Refund (2)	
Connecticut	3	Refund (1)	
Delaware	4	Refund (2)	
District of Col.	2	Refund (2)	
Florida	7		
Georgia	6		Exemption (A)
Idaho	5		Neither
Illinois	3	Refund (1) (V)	Neither (B)
Indiana	4	Refund (2)	
Iowa	3	Refund (2) (P)	
Kansas	3		
Kentucky	5		Exemption (1) (C)
Louisiana	7		Neither
Maine	4	Refund (2) (O)	Neither (D)
Maryland	4	Refund (2)	
Massachusetts	3	Refund (1)	Exemption (2) (Q)
Michigan	3	(E)	
Minnesota	4	Refund (1)	Exemption (1) (R)
Mississippi	6	Refund (2) (F)	
Missouri	2	Refund (1)	
Montana	5	Refund (2) (S)	
Nebraska	5		Neither (H)
Nevada	4	Refund (1)	
New Hampshire	4	Refund (1)	
New Jersey	3	Refund (2)	
New Mexico	3	Refund (1) (I)	
New York	4	Refund (1)	
North Carolina	6	Refund (1) (G)	Exemption (2) (J)
North Dakota	3	Refund (2)	
Ohio	4	Refund (2)	Exemption (1) (K)
Oklahoma	4	Refund (2) (T)	
Oregon	5	See Note U	Airplanes Not Specifically Mentioned
Pennsylvania	4		Neither
Rhode Island	3	Refund (1)	
South Carolina	6		Neither
South Dakota	4	Special Fund for Refunds (2) (L)	
Tennessee	7		Neither
Texas	4	Refund (2)	
Utah	4		Neither
Vermont	4		Neither
Virginia	5	Refund (2) (N)	
Washington	3	Refund (1)	
West Virginia	5		Neither
Wisconsin	4	Refund (2)	
Wyoming	4	Refund (2) (N)	

#### NOTES

- Aviation motor fuel testing 78 Octane Number (A. S. T. M. Method D-357-33T) or higher, of such quality not adapted for use in ordinary motor vehicles, being designed for and sold and exclusively used for aircraft motors are exempt.
- H. B. No. 87, Laws 1937, effective May 6, 1937, expressly makes fuels used in airplanes subject to the tax.
- On purchase of forty gallons or more. Buyer must secure an exemption permit before making purchase.
- Court decision.
- Aircraft gasoline is taxed 3c per gallon. Upon proof of interstate schedules, 1½c is refunded.
- All except 1c of tax per gallon refunded.
- 5c of tax paid per gallon refunded if fuel is bought in quantities of ten gallons or more at any one time. H. B. 233, effective March 10, 1937, grants refunds of taxes upon fuels used other than to propel a motor vehicle on highways.
- There is a tax of 5c per gallon on aircraft fuels. This is made up of a 4c tax on aircraft fuels and a special 1c tax effective from 11-26-35 until 3-1-37.
- On purchase of fifty or more gallons.
- If gasoline is adapted for airplane use only and cannot be used in motor vehicles.
- In tank car or cargo lots. H. B. 458, effective May 20, 1937, grants refund of 1½c per gallon of the 4c tax if fuel is used for purposes other than to propel a motor vehicle on highways.
- H. B. 54, effective February 11, 1937, allocates gasoline tax paid upon gasoline used in airplanes to a state aeronautics fund for maintaining airports. S. B. 212 effective March 16, 1937, makes refunds in entirety rather than ½ as under prior law.
- On purchases of five or more gallons.
- 2c only on purchases in excess of ten thousand gallons per month by airports.
- Refund of 3c per gallon only.
- Buyer must secure a refund permit before or at the time that the first application for refund is made.
- H. B. 372, Chap. 469, Laws 1937, effective June 1, 1937, exempts from tax fuels used in airplanes.
- H. B. 1507, Chap. 376, Laws 1937, effective April 23, 1937, in general terms exempts from tax all motor fuels used for purposes other than to propel vehicles on highways.
- H. B. 234, effective March 12, 1937, expressly exempts from the tax fuels used in airplanes.
- H. B. 119, effective May 3, 1937, expressly grants refunds upon taxes paid upon motor fuel used in aircraft.
- Although the law grants refunds and exemption for fuel used for cleaning and dyeing and other commercial purposes except propelling motor vehicles upon the highways, there is no express refund allowed or exemption granted with reference to fuels used in airplanes.
- Refund granted by Opinion of Attorney General, No. 2949, December 8, 1930 to airplane lines.

### IMPERIAL PROFITS

#### Earnings Ahead of Last Year's All Time High

The preliminary statement of Imperial Airways, Ltd., shows that for the 12 months ended March 21st, last, the company had a net profit of \$823,675. This is an increase of \$170,150 over 1936, the line's record year.

Distribution on old common shares will be increased from eight percent to nine percent, less tax, including a two percent bonus as before. The bonus and dividend require \$210,630.

Imperial sets aside approximately \$475,000 for contingencies and \$150,000 for taxation reserve. Last June the company issued 1,000,000 \$5 par common shares at \$7.50 each to provide new services in connection with the government. The government holds Imperial's deferred shares.

### EXPORT RECORD

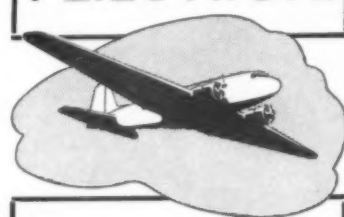
#### First 10 Months' Figures Exceed Entire 1936 Mark

Aeronautical exports from the United States during the first 10 months of 1937 totalled \$31,008,911. This is \$8,033,150 better than the all-time record high of \$23,055,761 established during the full year 1936.

October exports totalled \$3,662,559. Argentina led the buyers with \$807,608 and Brazil was second with \$306,922.

During the first 10 months, the United States exported 514 aircraft valued at \$17,299,930, and 872 engines valued at \$4,783,415. Parachutes, parts and accessories totalled \$9,005,566.

**UNITED  
FLIES HIGH!**



**New barographs insure maintenance of minimum altitudes**

\*United's policy is to fly at least ½ mile above any elevation on its entire coast-to-coast system. In addition, United offers barograph-equipped planes. This insures that prescribed minimum altitudes are maintained \* \* \* another forward step in United's continuous program to improve the dependability of air transportation.

RESERVATIONS: United Offices, Hotels, Travel Bureaus, Telegraph Offices

**UNITED  
AIR LINES**

The "Main Line" Airway

## N. A. A. Brodies; 1st National "Planning Conference" Floppo

Small Attendance and Lack of Leadership Results in Pathetic Travesty; Cone Machine Re-Elects Horner by Undisguised Default

Cleveland, Jan. 12—Badly organized, confused of purpose and meagerly attended by the industry, the abortive First National Aviation Planning Conference came to a stumbling close today under auspices of the National Aeronautic Association at the Hotel Carter. The so-called conference was interwoven inextricably with the annual N.A.A. convention.

The conference itself blundered through a series of sessions devoted to such items as airports, manufacturing, private flying, etc., mostly without leadership and with charitable tolerance on the part of the few industry representatives present. Highest attendance at any one session—the final one—was about 75. Lowest was about 30. Most observers conceded that the conference reached a new low ebb in aviation meetings, at least for a conference which supposedly was to be a national planning conference.

Only two sessions were devoted to the N.A.A. convention itself. After various factions had tried desperately to persuade acceptable leaders in the industry to be a candidate for president, Charles F. Horner was re-elected. Major E. E. Aldrin was elected vice-president; William Enyart, secretary; Grover Webster, treasurer, and Col. Ruby D. Garrett, general counsel.

The re-election of Horner was the third successive victory for the machine headed by Col. J. Carroll Cone, former Bureau of Air Commerce official and now manager of the Atlantic Division of Pan-American Airways. This year's victory, however, was without benefit of Department of Commerce inspectors who in the preceding two years had held the bulk of proxies.

A faction composed of the "Cleveland group" of which Fred C. Crawford, president of Thompson Products, Inc., is general leader, failed in its efforts to find a suitable industry candidate. The pre-convention campaign was conducted by Waldo Waterman of Los Angeles. Vincent Bendix and Jimmie Doolittle were among those who flatly refused to run. Of the 311 eligible votes, 123 proxies were in the hands of Enyart, N.A.A. secretary. Col. Cone was chairman of the nominating committee.

Newspapermen attracted by the advance announcements of the conference and first line speakers (who failed to show) spent a record-breaking three days trying to scratch up stories from conference sessions utterly barren and devoid of productive news.

Originally designed to coordinate all aviation groups into a solid and constructive permanent conference, the meetings failed to click in any substantial manner. Numerous organizations were represented by one person, most of whom were unable to commit their respective organizations on matters of policy. Even with the advance build-up on the planning conference, the combined conference and N.A.A. sessions failed to draw as large an attendance as the last convention in Chicago.

Only notable change in N.A.A. is establishment of an executive committee which is to decide on policy matters; election of Bill Enyart as secretary, and election of Grover Webster, a representative of the Private Fliers Association, as treasurer. Webster

heretofore has been an open enemy of N.A.A. but apparently has made peace. In addition to Cone, chief leaders in the behind-the-scenes activities were James Webb, of the Sperry Corp., and Col. Jack Jouett, retiring treasurer.

Registration tickets for the three days cost \$9. The N.A.A. has about 7,500 adult members.

### WILL ISSUE BONDS

Indianapolis Finances Building for Federal Experimental Radio Station  
Indianapolis, Ind., Dec. 1—Mayor Walter C. Boetcher announced recently that the city of Indianapolis will issue bonds to finance construction of a building to house the proposed federal aeronautical and radio experimental station at Municipal Airport.

The structure will cost the city \$30,000, provided WPA labor is obtained. It is expected that the federal government will spend at least \$800,000 to equip the building and approximately 50 persons will be employed at the station.

Work on the building will not start until final approval has been received from Washington. Mayor Boetcher explained that the bonds can be retired from increased airport revenues that will be assured from the station operation.

### Fairchild Sales Up 30%

Hagerstown, Md., Dec. 15—A thirty per cent increase in sales during 1937 has been recorded by Fairchild Aircraft Corp., according to F. A. Galligan, vice-president and general manager. More than ninety per cent of sales were on the Model 24, the remainder being on the "45". Fairchild has moved up to second place among the private-owner cabin plane manufacturers in point of sales. Recent deliveries include a Warner-powered Model 24 to the State Highway Department of Florida for use in survey work and aerial mapping.

### Airport Under Hammer

Santa Fe, N. M., Dec. 15—Through an error by a county official, Santa Fe's municipal airport was recently "sold" to the state for delinquent taxes—until a city official discovered the listing of the property and made it clear that municipal property is not taxable. The airport went under the hammer for nonpayment of \$1.15 assessed for the year 1934 along with a number of other properties.

### United Cuts Fares

Seattle, Jan. 1—United Air Lines reduced fares from the Northwest to eastern points as much as twenty-five per cent effective today for a period of sixty days. Fare reductions are restricted to the northwest area but affect fares from here to as far away as New York. All extra fares except berth charges are off.

### Hangar Completed

Fairbanks, Alaska, Dec. 30—Dieringer Brothers has moved into a new hangar, just completed.

### PASS HANGAR BILL

Edmonton to Build \$35,000 Structure at Airport

Edmonton, Alberta, Nov. 10—The voters of Edmonton decided today, by a vote of 5,308 to 1,578, to spend \$35,000 on the construction of a new hangar for the city's airport. The vote on the by-law was 718 ballots over the two-thirds majority required. Every poll in the city was in favor of the expenditure.

The Chamber of Commerce, aviation companies and the Taxpayers' Protective Association all supported the airport plan. The latter organization stated that the city council should exercise every economy possible but added that non-construction of the hangar would not be an economical move because Edmonton would be deprived of air transportation revenue.

## New Zep to Resume Trans-Atlantic Service in June, Using U. S. Helium

New York, Jan. 4—The sister ship of the Hindenburg, the helium-filled LZ-130, will make at least 15 round trips from Frankfurt, Germany, to Lakehurst, N. J., between June and next fall, according to a schedule announced by Edward P. Farley, president of the American Zeppelin Transport corporation. Trans-Atlantic airship service was abandoned when the Hindenburg burned at Lakehurst May 6, 1937.

Trial flights of the LZ-130 will start in May after arrival in Germany of the first shipment of American helium since Congress authorized export of the non-inflammable gas. Because helium has less lifting power than the hydrogen used in the Hindenburg, the new ship will carry 40 passengers instead of 70 accommodated in the previous craft.

Also under construction for the North Atlantic run, Farley revealed, is the largest dirigible ever built, the LZ-131, with 80-passenger capacity. It is expected to be ready for service late in 1939.

## Senate Passes H. R. 6628, Increasing P. O. Air-route Mileage to 35,000

The United States Senate on Jan. 5 passed H. R. 6628, increasing the air-route mileage of the country from 32,000 miles to 35,000 miles. The bill has now gone to President Roosevelt for his signature, having passed the first session of the 75th Congress on June 2, 1937.

The bill now reads, "The Postmaster General shall not award contracts for air mail routes or extend such routes in excess of an aggregate of 35,000 miles, and shall not pay for air mail transportation on such routes and extensions in excess of an annual aggregate of 52,000,000 airplane-miles." This latter figure was formerly 45,000,000 miles.

Only nine of the 32,000 miles were

### Statement—For the Record

Rumors have been circulated that AMERICAN AVIATION has been offered for sale to one or more aviation magazines. Rumors have appeared in certain circles that AMERICAN AVIATION "will fold up" shortly. And rumors have been about ever since June 1, 1937 that this company or that one is "financially back of" the magazine.

Rumors, particularly those circulated for obvious intent, are usually not worth bothering about. But for the record the publishers wish to state emphatically that AMERICAN AVIATION is not, never has been, and will not be for sale and, most certainly, it has not been "offered" to any other magazine. As to the second rumor, the most effective answer is the opening of enlarged office space on Jan. 3 with increased personnel with still further plans for expansion in the offing. Rumor No. 3 can be answered by an all-inclusive statement that not a single share of stock in the magazine corporation is owned or controlled by any person directly or indirectly connected with the industry, either now or in the past, and that no person directly or indirectly connected with the industry is on the payroll.

## Hanford Starts Night Run Without Lights

Following an agreement reached with the Bureau of Air Commerce last summer, Hanford Airlines on Jan. 1, opened scheduled night service between Tulsa, Oklahoma and Kansas City, Mo., over what is classed as a "limited lighted" airway. The Bureau had formerly permitted night flying only over completely lighted airways.

The Tulsa-Kansas City route has three radio ranges and four lighted landing fields. Hanford's Lockheed Electras leave Tulsa at 7:15 p. m., arriving in Kansas City at 8:45 p. m., and continue to Omaha.

All Hanford planes have for some time been equipped with radio direction finders which enable the pilot to stay on his course when flying through or above the clouds.

pected to be ready for service late in 1939.

The LZ-130, 804 feet long, is designed to cruise 7000 miles non-stop, and will be powered by four Mercedes-Benz engines of the Diesel type, each rated at 1200 horsepower. Westward crossings will require two and one-half days; eastward trips two days.

Transoceanic passengers will transfer to American Airlines planes at Lakehurst, and the aviation division of the Railway Express Agency is planning to handle cargo shipments. American traffic representatives will be Hamburg American-North German Lloyd.

Farley declared that his organization, general United States agency for the Zeppelin company, has made the necessary preliminary arrangements for training of American officers and crews and would be prepared to launch an American airship operating program as soon as government support is assured by necessary legislation.

left at the time the Senate passed the bill and the Post Office had found it impossible to grant any extensions or advertise any new routes. The latest application for an air mail stop was made by the city of Akron on Dec. 15. Solicitor Karl A. Crowley of the Post Office Department in his decision stated that he could see no legal objection to having United Air Lines stop at Akron, but that the lack of mileage might make such a stop impossible. With the passage of H. R. 6628, it is thought that the application will be granted.

It is not known at present whether the Post Office Department will advertise any new routes or grant any extensions, although approximately \$100,000 is available up to June 30, 1938.



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Paris Opens...Berlin Builds  
Washington Sleeps...

PARIS

WASHINGTON

Upper Photos: European. Lower Photo: Washington Star.

## "A Public Menace . . . A National Disgrace"

In a biting and penetrating speech before the House of Representatives on December 14, Representative Charles A. Plumley, Republican of Vermont, said "Washington-Hoover Airport, as is, is both a public menace and a national disgrace."

Photos above indicate what other world capitals are building. Berlin's new Tempelhof, now under construction, will have the largest buildings in all Germany; the extent of the plans stagger the imagination. Photo shows model but hardly gives true conception of the enormity of construction under way. At Paris, the new LeBourget is one of the finest terminals in the world. Photo of administration building gives an idea of the size of the undertaking.

Mr. Plumley said that present facilities at Washington Airport "are so inadequate, so unsafe and dangerous that the airline pilots using the airport have filed a petition with the Bureau of Air Commerce in which they state that they are of the opinion that in the in-

terests of safety all operations should be transferred to the New Bolling Field.

"How long are these pilots going to be compelled to endanger their lives and our own? We are going to wake up some morning to learn that one of the greatest air catastrophes in the annals of aerial navigation has occurred right here at the Capital of the Nation.

"I call it about as near criminal negligence as anything of the kind could be, not to do something in response to the petition of the men above all others who know what the situation is, and what ought to be done.

"It is about time that some of you people took hold and helped straighten out this situation. It is about time that the fear of God was put in the hearts and minds of some people, who either are now too dumb to appreciate the hazards to which they are subjecting the traveling public, or do not care. That is pretty strong, but I am

going to let it stand. You can fool along when only dollars and cents are involved, and get away with it, but when human life is at stake it is no time for dilly-dallying, nor further unjustifiable delay."

### Topsy-Turvy

Pittsburgh, Jan. 3—Upsetting the customary trend, Allegheny County Airport had fewer transport landings in 1937 than 1936, but an increase of 2,000 passengers arriving and departing. Landings in 1936 were 9,842 and in 1937, 8,941, but passenger figures were 62,561 for 1936 and 64,524 in 1937. In December, the airport experienced for the first time in its history two complete days of no operations because of weather. Air mail in '37 jumped from 546,738 pounds in 1936 to 656,478 pounds in 1937.

## London Builds Field to Replace Croydon

London, Dec. 17—It was announced here yesterday that the city of London will erect a \$3,000,000 modern airport on a plot of 1,000 acres of Fairlop Plain, 11 miles from town.

The new field will replace Croydon Airport, which is now regarded as inadequate to handle the large volume of air traffic. Waiting rooms, salons, dining rooms and a hotel will be located at the field and it is said that technical facilities will be far superior to those now available at Croydon.

The city had planned to use Heston Airport, but this was taken over for military purposes as will Croydon when the new field is finished, which will be in about four years.

Four landings and takeoffs will be possible at the same time at the new airport, thus eliminating the present need for planes to await their turn to land, especially during fog. Detailed plans of the field are not available.

## AMERICAN AVIATION

*The Independent Voice of American Aeronautics*

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## FORTNIGHTLY REVIEW

(Continued from page one)

Lea bill S-2 and the McCarran-Crosser bill S-1760, are out in front for early consideration.

Chambers of Commerce, civic clubs and the Interstate Airways Committee representing a group of organizations consider paramount the establishment of a fair tribunal where route certificates may be considered, allowed and service responsibility assumed by the successful operator in return. The insurance people, investment bankers, railroad and bus people believe that transportation coordination is most important and want it under ICC. The contest promises to be interesting with airline operators pretty much on the side-lines.

## A BAC Employee Politicking

IS IT necessary for government personnel below the rank of the director of Bureau of Air Commerce to participate in national politics? We think not. We believe the industry should be protected from left-handed threats from Bureau of Air Commerce employees who are paid to do certain jobs and keep hands off of politics.

One man—a section chief in the Bureau—has not yet learned his lesson. Having been deeply embroiled in the politics of the Bureau of Air Commerce under the preceding regime, he is out on a limb again instead of attending to the job for which he is paid.

At least three members of the Interstate Airways Committee, an organization of civic-minded persons designed to promote passage of constructive legislation in Washington, have been approached by this Bureau section chief and told to get off the committee. This Bureau section chief is opposed to the McCarran-Lea bill. Very smoothly he has exerted his efforts to break up the committee, to warn his "friends" that "it would be best for them not to link their names up with such a committee." As one leading member of the committee said, "I was told to 'get my name off the committee.' I am not going to take that advice."

Bureau personnel, particularly when they are not even chiefs of a division, have no business participating in such activities as this. Mr. Fagg, the Bureau director, might do well to see that his men attend to their jobs. It's about time that this sort of thing is stopped. If any more members of the Interstate Airways Committee are approached in this manner, it will be about time to do some very frank talking—and name names—on a subject that should never be necessary to open up if employees do their jobs and stop trying to run aviation to their own liking.

## One BAC Employee For Every 4.4 Airplanes

According to Secretary of Commerce Daniel C. Roper's annual report for the year ending June 30, 1937, released January 3, there were 2,001 employees of the Bureau of Air Commerce on the closing day of the year. With approximately 8,800 licensed and unlicensed civil aircraft in the United States, this means one Bureau employee for every 4.4 airplanes. If all other Federal employees concerned solely with civil aviation were added, there would be one Federal employee for approximately every three and a half airplanes.

## What About the Air Mail "Subsidy"?

IS THERE an air mail subsidy? On the surface, the annual Post Office report, discussed in this issue elsewhere, indicates that for the first time in air mail history the revenue almost equals the outgo. But before jumping to conclusions, let us examine the facts.

The press release of the Post Office Department report played up the fact that three years ago the department paid over \$19,000,000 to the airlines but received only \$6,000,000 in air mail postal revenue, while for the fiscal year ended June 30, 1937, the department paid the airlines \$12,722,286 while the revenue was \$12,439,579, leaving a difference of only \$282,707. Senator Harry Truman, Missouri Democrat and strong advocate of constructive legislation, issued a statement on January 3 saying that the domestic airlines "no longer are operating under a postal subsidy."

But what everyone has overlooked is the actual Post Office report itself. Despite the Post Office's desire to paint a rosy picture of its record in handling the mail, it lists in so many words an "air mail subsidy" of \$6,737,129 for this same fiscal year. If one will take the time to examine the pages of statistical tables, one finds that the Post Office gives as the actual cost of the air mail service, not \$12,722,286, the amount paid to the lines, but \$19,177,129. This figure includes not only the amount paid to the airlines, but in addition a pro rata of the cost of operating the entire post office service, the argument being that if air mail represents .134 per cent of all mail carried in the country by weight (1.759 per cent by revenue), then this classification should stand a pro rata cost of the entire service.

The question becomes one, then, of just what is the cost of the air mail service. Is it the amount paid to the airlines, or is it the \$19,177,129 which the Post Office lists in its annual report? We are not arguing that the Post Office should include a pro rata amount of its expenses in the cost of the air mail service, but this will be a mighty important question when the Interstate Commerce Committee holds a hearing February 1. Remember that on and after July 1, 1938, the I. C. C. must fix air mail rates so that the aggregate cost of air mail equals the estimated postal revenue. It is plain to see that if the I. C. C. places the same interpretation on aggregate cost as the Post Office does, the I. C. C. will have to balance something like \$19,000,000 with \$12,500,000—and the result will be a sharp slash in amounts paid to the airlines.

We agree with Senator Truman that it is absurd to say that there is an air mail "subsidy." The airlines pay out of their own pockets a great deal in the way of free rent to the Post Office, air mail salaries, trucks, etc. But let's not be misled by thinking that the Post Office has eliminated the word "subsidy" from its report, because it hasn't done so. On the question of whether the Post Office is justified in charging up to air mail a pro rata cost of the total postal service, we remember a comment made by a prominent Senator the other day, who said: "Sure, the Post Office says it must allocate a proportionate share of the expense of running the whole postal service to air mail. But if we would say to the Post Office that the air mail seems to cost too much, and suggest eliminating the whole \$19,000,000 and abolish air mail, the Post Office would immediately say that it couldn't do that, that those extra costs which it lists as pro rata are fixed and couldn't be eliminated even if air mail were abolished." No, in reality, there isn't a "subsidy" but as long as the Post Office carries the word "subsidy" on its books, the industry will have to follow the I. C. C. hearings on AM Docket 19 with keen interest and analysis.

## Over 40,000 Student Pilots

Perhaps the most impressive evidence that private flying is on the up-grade is the most recent report from the Bureau of Air Commerce listing the number of student pilots for 1937 as 40,284. This is a big increase from the 31,762 recorded for 1936, and the 8,132 recorded for 1932. The number in 1933 was 11,385, in 1934 it was 12,917, and in 1935, 24,929.

## American Shows 1937 Gains

American Airlines transported 283,485 passengers during the first 11 months of 1937, which surpasses the 255,324 passengers carried during the entire year 1936, according to a statement issued by C. R. Smith, president of the company.

Passenger miles flown during the first 10 months of 1937 were 106,349,229 as compared with 100,637,461 for all of 1936. Smith stated that there has been an increase of from approximately 374 to 407 miles as the average length of flight per passenger. American Airlines is laying its 1938 plans on an expectancy of 400,000 passengers, Smith said.



## PRO, CON AND OTHERWISE

December 30, 1937.

To the Editor:

You may wish to publish the following:

Col. Floyd Evans, President,  
National Association of State Aviation Officials,

Dear Floyd:

In his Miami address to the N. A. S. A. O., Hainer Hinshaw of United Air Lines assails aviation fuel tax as "the most insidious, unjust, discriminating, inequitable and unfair of all taxes." With an economically unsound argument, replete with half-truths, he evinces a biased viewpoint recking with the unfairness he so emphatically condemns.

He says: "Aircraft fuel consumed is not related to the use scheduled aircraft may make of any facility which has been provided by a state, because the aircraft operator pays his rent and use fees on every municipal and county airport he uses—"

One outstanding example refutes the economical balance he would glibly strike. At one airport, representing a local capital investment of \$2,000,000.00, the airline pays \$1,200 for the "fair" usurpation of complete dominance. This per annum use fee is but two-fifths of the use fees paid by independent operators, but they can only operate in accordance with the airline dictates.

These local expenditures are "justified" by the intangible benefits of airline service, and the income for coffee and doughnuts sold to celebrities between planes.

Hainer says that 99% of these airports would fold-up if it were not for these "equitable" use fees paid by the airlines.

The truth is that 99% of these airports were in existence when the airlines were just some "guys that haul the mail." The meager pittance they call "use fees" is just a few more nickels to take the bitterness out of City Councilmen. The airports would hardly fold up or even miss them. Of the 32 airports and landing fields in one state, only four of them are "blessed" with favors from the airline. They have been open for "yars and yars."

Hainer continues: "Some states that tax aviation fuel have an aeronautics commission which is supported in whole or in part by this tax. Such state commissions devote, practically, their entire appropriation to the development of private flying—"

The truth of the matter is that every state with such a commission is outstanding in the development of the airports and navigation aids along its civil airways. A small amount of fuel tax, expended on sheer salesmanship, is responsible for this fact, and these definite airline benefits. They like to give the credit to Washington, but the boys that have coordinated these efforts know that it was local capital, local enthusiasm, and the State WPA director who was the kingfish in the deal. Not the national clique who would usurp credit. This includes our "big brother" who promised us earmarked funds that never materialized.

And—"It then can be said that the scheduled is subsidizing the private flyer." Tush! Tush! Who foots the local bills?

"Hence, the private flyer should look upon the airline operator as a big brother." That is exactly the way we are beginning to look upon the airline

operator, but as the kind of big brother that says: "Scram, wart! You're getting under my feet."

Or, as the type that subtly submerges little brother's welfare in the interest of his own. Col. Gorrell, suavely and ably, brings out the point in his Miami address: "Let's get this McCarran-Lea Bill out of the way before we attract attention to other matters." The economical salvation of the airlines being paramount to all else. Paramount even to the immediate physical needs. He is right as far as the airlines go.

But, it shows how one phase organizes its efforts to further its own interests, and how, at Miami, other phases were denied cognizance. We sat, in compelled passive acquiescence, and took the punches.

Hob-nobbing with organized influence has turned some heads, I am afraid. In simple gullibility, the boys have let their perceptions be clouded by the false aura these "big-shots" build around them. They have lost sight of their real purpose. It is more pleasant to bask in glory than to tackle tough objectives.

Floyd, let's have a convention next year for the state aviation officials. Invite everybody, but make them all listen to us. I am not in favor of closed meetings. It is more fun to drag the battle out in the open. Every ill in every phase of aviation sticks out like a sore thumb. Each situation has its correct solution. We can arrive at a broad national aviation program. We won't talk about our woes. We'll devote our time to a decision—What?—When?—How?—Where?—Why?— and we will carry out that decision. We can do it because we have a broad conception of aviation.

JUPITER.

January 4, 1938.

To the Editor:

We like very much your idea of giving recognition to some of the people who have contributed to the success of aviation. Not only do we like the idea but you have done a good job in selecting the names of the men who are so honored. I know that they will appreciate your thoughtfulness and our interest in the industry prompts us to express our appreciation to you also.

C. R. Smith,

President, American Airlines.

December 23, 1937

To the Editor:

Your editorial on "Air Race Murders" was good and I thought the subject timely and well taken. However, I don't think you went far enough. From hangar gossip and other reports I understand that neither Kling nor Haines had had a great deal of time in any kind of ship, let alone the tricky unstable stuff they were flying. I also understood that at Cleveland last fall a petition, either written or verbal, was circulated at the races to bar Haines from flying in the races, supposedly because of his complete lack of racing experience.

I am told by one of the other boys in the race that both Kling and Haines got into trouble because they didn't have enough flying speed. The turn they had to make at the scattering pylon was better than 180 degrees and those two little jobs just didn't have enough speed to get around the way they should have. You will recall at Cleveland the first pylon turn was no more than 90 degrees.

## Folks Worth Meeting—

CHARLES A. RHEINSTROM is a natural salesman. His father was a successful salesman. As a boy

Charlie sold just about everything a boy could sell: magazines, soap, Christmas greens and vanilla. Probably this instinctive bent towards salesmanship is the principal reason why today he is vice-president in charge of sales for American Airlines. With nine years of sales activity in the industry behind him, Rheinstrom is a potent factor in the development of air transportation in the United States.



Just turned 35, Rheinstrom moved from city to city with his family, attending grammar and high schools in Cleveland, Kansas City and Minneapolis. On entering the University of Minnesota he thought he might become an engineer, and accordingly took up the study of civil engineering. He became active in the R. O. T. C. Coast Artillery Unit, attained the rank of major, and spent two of the best summers of his life in camp at Fortress Monroe, Va., and the Praesideo in San Francisco.

After graduation he took a practical fling at his chosen career by being a surveyor. But he soon left this job to sell Cadillacs and LaSalles in Minneapolis. After three years of this he decided it was time to get into something with a bigger future and decided upon aviation. In the summer of 1928

It would seem to me that pilots wishing to race airplanes should be qualified the same as auto race drivers are by the American Automobile Association. This should be specially true if the National Aeronautic Association is sanctioning the meet. Also isn't it about time that racing ships should have to meet some sort of requirements as to flying ability other than that they get off the ground within the limits of any given airport. Even at Cleveland many remarks were passed at Kling's ship as it "hunted" past the grandstand indicating either instability or lack of "feel" on the part of the pilot. I believe that the AAA has a so-called "secret committee of six" which reports on all drivers and cars before the Indianapolis races. This covers fitness, condition, etc., and seems to be justified in the light of past events.

One Who Was at Miami.

## Unsolicited Comments

"I am inclosing a check for a year's subscription to AMERICAN AVIATION. I have read a number of copies of your publication and I think you are doing a very good job." Paul M. Godehn, director, United Air Lines, Chicago.

"It may be of interest to you to know that I have read and enjoyed AMERICAN AVIATION since its first issue, and you are doing a splendid editorial job both on the book itself and for the industry." Thomas Quinn Beesley, executive director, National Council of Business Mail Users, Chicago.

he called on the Thompson Aeronautical Company, then operating planes over most of lower Michigan. The company had just been awarded an air mail contract. He landed a job and went to work August 4 as traffic manager for Thompson Aeronautical in the company headquarters at Kalamazoo, Mich.

As those who were in the business back in those days will recall, an airline traffic manager didn't sell many passenger tickets. His job was chiefly that of selling air mail and air express to commercial houses.

In 1929, Thompson Aeronautical changed its name to Trans-American Airlines Corp., and moved headquarters to Cleveland, then to Detroit. A new service called "The Duck Line" was started between Detroit and Cleveland, using six-passenger Loening single-engined amphibians for the hop across Lake Erie.

Four years later, in 1933, Trans-American became a part of American Airways, and Rheinstrom was made division traffic manager of the eastern division with headquarters in St. Louis. When the company divisions were dissolved the next year Rheinstrom was moved to Chicago as district sales manager—and in 1935 was made general sales and traffic manager of the company, which by this time had become American Airlines, Inc. In December of 1936 he was elected vice-president.

Rheinstrom is an advanced thinker on air transportation. He knows full well that only the surface has been scratched—that the airlines have only begun to grow. To him must go the credit for inaugurating new sales ideas, new types of advertising appeals, new slants on sales promotion.

"Should have done this sooner but I have seen too many magazines attempt the thing which you have accomplished and I was skeptical. My apologies for misjudging you and my thanks for reminding me of what I am missing. Stay in there and call 'em like you see 'em and let's continue to have one aeronautical news magazine that's interested in the sound practical truth and not sensationalism." Arthur E. Derby, Oak Park, Ill.

"Keep up your good work with AMERICAN AVIATION. It is without a doubt the best magazine in the industry today. With best wishes for your continued success." R. G. Devellell, United Air Lines, Portland Oregon.

"I wish to take this opportunity to state that your magazine is most interesting to me, as it deals, in the main, with matters not covered by any other aviation publication, such as financial data of airplane manufacturers, and the industry as a whole."—Dwight S. Wallace, secretary-treasurer, Cessna Aircraft Co.

"We have several avid readers of your excellent magazine in our organization and wish to add our endorsement of the high quality of your publication."—Paul S. Blair, 2d Lieut., operations officer, Air Reserve, San Antonio, Texas.

## Aircraft Associates' Dance

Long Beach, Calif., Nov. 20—Three hundred couples were guests of Aircraft Associates, Ltd. at a dance and dedication of the company's new offices and hangar at Long Beach Municipal Airport tonight. Harvey Martin, president of the firm, was host.

## Pro, Con and Otherwise

Montreal, Canada  
November 2, 1937.

To the Editor:

In the November 15th issue of AMERICAN AVIATION, on page 12, there is an editorial entitled "Canadian Airports." The gist of the article seems to indicate that the airport situation in respect to size and usability for modern transport planes in Canada is backward and that not sufficient thought has been given in the development of airports in this country to properly handle modern aircraft. It is the purpose of this letter to correct the inference, and to that end may I give you the following facts:—

There has been under development in Canada an airport system throughout the length and breadth of the country, and which was initiated in 1929 and has been undergoing development since that time. This airport work has been carried out by the Department of Transport, and in many instances insofar as the various cities are concerned by themselves with the co-operation of the Department of Transport. It is variously estimated that from \$5,000,000 to \$8,000,000 has been spent in the acquisition of land and the improvements, so that the facilities may be useful for all types of aircraft, including of course transport, the itinerant flier, and military.

Airports have been developed so that there now exist across Canada air fields at approximately fifty mile intervals and which, generally speaking, are suitable for use of the aircraft now normally used in Canada.

With the advent of Trans-Canada Air Lines, which will be a scheduled air line operation when completed, connecting the principal cities of Canada including Montreal, Ottawa, Toronto, North Bay, Winnipeg, Regina, Lethbridge, Calgary, Edmonton and Vancouver, and in the very near future some proper point in the Maritime Provinces, key fields have been so planned that land has been acquired in most instances insufficient area to provide all-way all-weather landing fields with runways, in width and length sufficient to provide runways of 5000'. Hard surfaced runways have been provided or are planned for wherever necessary. No airport construction has been approved by the Department of Transport until the plans have been provided for the foregoing. The result will be that when Trans-Canada Air Lines begins operation in the near future, it will have key fields at the cities at which stops will be made that will not only be usable for the present type of aircraft contemplated (the Lockheed 14), but the airports themselves will be susceptible of development to handle any aircraft which we know as being under development at the present time. In addition to this, care has been taken to zone the areas immediately surrounding these key fields so as to prohibit the erection of buildings and other obstacles inimical to safe transport flying.

In addition to these key fields along the airway planned for Trans-Canada will be intermediate fields at approximately hundred mile intervals, which will be fully lighted and will provide airport facilities which can safely handle aircraft such as used in modern scheduled air transport operations.

Trans-Canada Air Lines themselves will provide a two-way radio communication system which, generally, will be

located at the key fields and at certain of these intermediate fields, and these radio facilities will be the most modern procurable at this time. The transmitters will all be of 400-watt power, and appropriate receivers will be installed. The radio equipment which will be installed in the planes falls in the same category.

The Department of Transport is providing at approximately hundred mile intervals a radio range system which, at this writing, is the most up-to-date procurable. The legs of the radio ranges are so arranged as to be reciprocal wherever possible with each other, and the stations are so located that one or other of the four legs of the range system will fall across the field to which it is adjacent.

All of this work is now under way so it can be said that it is an actuality rather than hopeful planning.

The other air fields which we have indicated as being at approximately fifty mile intervals, will be kept in condition to take care of the miscellaneous flying which does not necessarily require airports and facilities of the type required for scheduled air transport.

In addition to all of this, Trans-Canada Air Lines has developed, and is at present beginning construction of hangar and shop facilities, which I believe have been more carefully thought out with a mind to the future than has been the case elsewhere in North America. The main units are so constructed that they will be adequate to handle airplanes of the type that will be initially used, but as the demand develops for larger airplanes the hangars can be expanded to a point where they can house aircraft up to 200' span without the necessity of scrapping any of the buildings which will be initially used. I doubt very much if many of the shop and hangar facilities of other North American lines are capable of such expansion.

It may also be well to point out that the Department of Transport is instituting a complete meteorological service for use in connection with scheduled air transport, as well as other flying services throughout Canada. Forecasting centers are being established at strategic points and it is noteworthy that the supervisory personnel of these forecasting centers have been chosen from college trained personnel who have been graduated from their respective colleges in the higher scholastic brackets.

I note particularly in your editorial you draw attention to one field in British Columbia where a runway is being provided 3500' in length, the entire field being but 500' in width. This particular field does not happen to be on the airline, but the dimensions indicated do not necessarily mean that this airport is not susceptible of further development to meet the needs, when they should arise. There are many instances in Canada, as well as elsewhere in North America, where the conditions of terrain prevailing, wind direction, etc., are such that a two-way field will always serve a proper purpose.

The foregoing facts are called to your attention in an effort to correct any misapprehension as to the lack of planning on the part of the authorities in providing an airway across Canada.

P. G. JOHNSON,  
Vice-President  
Trans-Canada Air Lines

## Accidents

### Student Pilot Killed

Snyder, Texas, Dec. 27—Ray Neal, 16-year-old student pilot, and his friend, Ralph Gore, were killed near here yesterday when Neal's plane crashed into a pasture.

### 3 Die in French Crash

Vienna, Austria, Dec. 25—Three persons lost their lives yesterday when a French airliner with pilot, radio operator and one passenger aboard, crashed near the village of Schuttenhofen. Upon arriving at Vienna, the pilot had refused to fly the last lap to Prague because of bad weather, but the passenger, anxious to get home for the Christmas season, had induced him to make the trip. Soon after leaving Vienna, ice formed on the wings and also put the radio out of commission.

### Army Plane Noses Over

Denver, Dec. 24—A twin-engine Army bombing plane carrying eight men, nosed over here yesterday while attempting to take off from the Municipal Airport. No one was hurt, although the plane hurtled through a wire fence at the boundary of the field. The crew was composed of graduates of the Army Air School at Rantoul, Ill. They were being transferred to Hamilton Field, Calif.

### Crashes into Lake Erie

Toledo, Ohio, Dec. 30—A cabin plane, owned by Erie Isles Airways, Inc., fell into Lake Erie near here yesterday, killing three passengers. William Somegy, pilot, was rescued and is suffering from shock and exposure. The accident occurred when Somegy became lost in a fog and misjudged his distance. Passengers were being flown to Put-In-Bay Island, where they were to be transferred to a larger plane which flies to the mainland, eight miles southward.

### 3 Cuban Planes Crash

Cali, Colombia, Dec. 30—Seven persons were killed yesterday when three Cuban "good will" planes collided and crashed in flames in the Andes, 12 miles west of here. The fourth plane of the group landed safely at Panama.

The planes were making a 20,000-mile cruise of Latin and North American capitals in behalf of the Columbus Memorial Lighthouse, proposed for erection at Ciudad Trujillo, Dominican Republic.

Witnesses stated that the three planes, which were flying low in order to avoid a storm, appeared to interlock momentarily, burst into flames and then crashed separately. The fourth plane was flying very high.

The "good will" cruise was 10 days behind schedule. Planes were to have reached Washington, D. C. on Jan. 5 or 6.

### Mayfield Forced Down

Orange, Va., Jan. 1—Motor failure yesterday forced down a single-engine four-place Stinson-Reliant in a cornfield near here. "Slim" Mayfield was the pilot, and three passengers were aboard on the charter trip. No one was hurt. The plane's undercarriage was damaged.

### Army Airmen Rescued

San Francisco, Jan. 5—Five Army airmen were rescued yesterday when their Douglas transport was forced down in San Francisco Bay near Richmond.

## HOWARDS SUE FOR \$150,000 DAMAGES

Bendix Race Pilot and Wife, Permanently Injured in 1936 Crash, Enter Claims

Scranton, Pa., Dec. 20—The Federal Court in Scranton has been asked to decide if the injuries suffered by Ben O. Howard, 1935 Bendix winner, and his wife were the fault of the propeller company from which he had rented a propeller which he later used in the 1936 Bendix cross-country race.

Howard and his wife, Olive Maxine Howard, both of Chicago, filed suit here today asking \$100,000 damages for his injuries, \$50,000 for his wife's injuries, as the result of their nearly fatal crash near Crownpoint, N. M., in 1936. Howard is now employed as "flying laboratory pilot" for United Air Lines.

Laying responsibility at the door of the defendant company, the Locomotive Manufacturing Company, of Williamsport, Pa., Howard claims that on Sept. 4, 1936, while engaged in the Bendix race, "the hub of said propeller which had been manufactured, supplied and serviced by the defendant, broke, part of the hub and one blade leaving the plane and causing it to crash to the earth near Crownpoint, New Mexico, from an altitude of 3,500 feet, completely wrecking said plane and seriously and permanently injuring the husband plaintiff, who was acting as pilot at the time, and the wife plaintiff, who was acting as co-pilot."

According to Howard's claim, which has not yet been replied to by the manufacturing company, the story of the case started with the preparations made by Howard for taking part in the Bendix race of 1935, which he won, and when he also captured the Thompson Trophy.

At first he rented the propeller for his racing plane, he said, attaching a copy of the contract under which he paid \$1 per flying hour. This lease was dated Aug. 21, 1934, and was for 30 days. A subsequent lease in 1934 was added but none is included for the 1936 race. The propeller was accidentally damaged the next month and returned to the company at Williamsport for repair, he said, adding that the repair charges were \$360 and duplicate bills were sent to both him and his wife, and both were paid.

On Oct. 25, 1934, Howard said George J. Brew, sales manager of the company, urged him to retain the propeller for the 1935 Bendix and he did and won with it. The plane then remained idle until Sept. 1, 1936 when he began preparing for the 1936 Bendix. He said the total flying time it had been used since reconditioning was 21 hours and 45 minutes.

Howard claims he questioned Brew in Aug., 1936, about the condition of the propeller and whether it should not again be returned to the factory for inspection and repair. Howard claims Brew told him it was not necessary "inasmuch as said propeller could be operated for 50 hours at the speed which causes the greatest vibration without need of inspection." Howard said he had the propeller examined externally, but not for interior defects, "relying upon the assurances of the defendant."

Seven points of claim are made by Howard and his wife. The pilot said he has lost his transport pilot's license and his wife her pilot license by the accident, which he said deprived them of their means of livelihood. Howard's right leg was amputated twice. His wife's legs were crushed as well as other serious injuries and is able to walk only on crutches.



## Weather Bureau Replaces Pilots With Radio Balloon Ascensions

Six Deaths in 1937 From High Altitude Forecasting Flights Rushes Program to Use Radiometeorograph Instead of Aircraft

Concerned over the deaths of six pilots during 1937 and desirous of securing more complete information as to high altitude weather conditions, the United States Weather Bureau is carrying out a plan to supplant the airplane with balloons for weather forecasting.

Dr. Willis R. Gregg, Chief of the Weather Bureau, told AMERICAN AVIATION that the new devices, known as radiometeorographs, will insure more accurate forecasting, especially in bad weather when planes are unable to ascend into the upper air. Altogether, eight crashes, six of which were fatal, resulted during 1937 from pilots' efforts to ascend to heights of more than three miles. Dr. Gregg stressed the fact that planes are not required to fly when the weather is bad or even threatening, but pilots sometimes take the chance to obtain much-desired bad weather readings. The radiometeorograph will do away with this risk.

The new radio device is attached to a hydrogen-filled balloon which will rise to an average height of 10 miles. The instrument consists of a miniature wireless set which broadcasts the responses made by three elements sensitive to atmospheric changes. Attached to each element, one responsive to pressure changes, one to temperature changes and one to humidity changes, is a small hand or lever, which moves as the element moves.

A fourth small hand in the device, kept in motion by a special clockwork, passes over the three other hands, making contacts as it goes. At each contact a signal is broadcast which is

picked up by a receiving set at a ground station. Observers translate the broadcasts into pressure, humidity and temperature readings.

Due to decreasing outside pressure, the balloon bursts as it reaches its maximum diameter. The radiometeorograph descends by means of a small parachute. However, its work is already finished and it is not necessary to wait for recovery of the device on the ground to complete readings.

It has been the policy of the Weather Bureau to offer a small reward for the return of the radiometeorographs, as they may drift from 10 to 100 miles during descent. To date 85 per cent have been returned. Some have been slightly damaged but most of them are repairable.

The Weather Bureau has conducted experiments since 1909 with balloon equipment but because of the lack of radio it was necessary to await recovery of instruments before weather could be calculated. One instrument, sent up by Dr. Gregg from Santa Catalina Island off the coast of California in 1913, was recovered in Death Valley in 1936, 23 years after its ascension. Most of the readings were still legible.

At present one radiometeorograph reading a day is being taken at Fairbanks, Alaska; Burbank, Calif., and Boston, Mass. Aerometeorograph readings are taken at these three places and also at 23 other stations throughout the United States.

During the present fiscal year the Weather Bureau will install radiometeorographs at six or seven of these aerometeorograph stations and by the

## Weather Bureau To Report Winds At Odd Thousands

Following a request made by the Air Line Pilots' Association, the Weather Bureau is revising its weather reporting to include the giving of wind information for odd thousands of feet as well as for even thousands. The pilots had pointed out that they must fly at even thousands of feet altitude in one direction and odd thousands in the opposite direction and that wind velocity and wind direction information is only available for even thousands. At the behest of Earl F. Ward, airways operations chief for the Bureau of Air Commerce, the Weather Bureau has notified the pilots that complete information will be supplied.

end of the fiscal year 1939, hopes to be using the former device at all stations. Then it is planned to increase the total number of stations from 26 to 60 or 75. Only one radiometeorograph reading a day will be taken although it is possible that this may eventually be increased to two.

The cost of one reading a day will run \$10,000 per station per year, Dr. Gregg stated. This includes the cost of the radiometeorograph, which at present is about \$35; cost of balloon, about \$2.25; cost of hydrogen gas; cost of ground receiving set, \$500, and the employment of necessary ground personnel.

Dewey and Almy Chemical Company is furnishing the balloons to the Weather Bureau. Each balloon is 60 inches in diameter when released but will expand to 180 inches before bursting.

Aerometeorograph observations are at present conducted by small companies or private flyers who are under contract with the Weather Bureau. Some of these companies are the Alfred Flying Service, Chicago; Greer Flying Service, Nashville, Tenn.; Northern Michigan Air Service, Sault

## SAFETY COUNCIL FORMED BY PILOTS

Will Study and Make Recommendations on Present and Future Transport Equipment

An Air Line Pilots' National Safety Council has been established by the Air Line Pilots Association "to study and make recommendations upon present and future equipment and all other safety features of air line operation." Chief duty of the committee will be to pass on the question of whether or not equipment is safe under all operating conditions and "to put a stop to factories over-rating equipment as to speed maneuverability, especially with a full load on one motor, load carrying factors, etc."

Pilots elected to the council are: Thomas O. Hardin, American Airlines; Benjamin S. Catlin, Chicago and Southern; George R. Cushing, Delta Air Lines; John H. Halliburton, Eastern Air Lines; Sidney L. Willey, Hanford Air Lines; Mal. B. Freeburg, Northwest Airlines; H. L. Smith, Pennsylvania-Central; Harold L. Knoop, United Air Lines, and J. W. Carson, Western Air Express.

The vital question before the pilots, according to the announcement, is, "Is the ship of today as inherently stable as the ship of yesterday, and are safety features being sacrificed for more and more speed and weight-carrying capacity?"

"Obviously engineering features must be vastly different to provide for increased wing loading and greater passenger carrying capacity as well as much higher speed," the announcement said. "In the mad race for greater speed and larger ships, a very important fact seems to have been overlooked—that a pilot must fly this equipment while continually confronted with the problem of maneuvering it successfully under far greater handicaps than existed several years ago."

"He must fly on instruments, work beam problems, decide unerringly what he will do under a low ceiling with high wing loadings or when maneuvering to land while a high speed must be maintained to compensate for increased wing loadings."

"It is a fine thing to be able to say that a plane will travel two hundred or more miles per hour, carrying immense loads. But how much space is needed to take off and land without the aid of all sorts of trick devices? And how about its maneuverability under all kinds of weather conditions, beam flying, etc.? It is true that equipment has advanced in speed and weight-carrying efficiency but certainly sight should not be lost of the fact that weather conditions are not man-made and remain the same."

Ste. Marie; Pacific Air Service, and the Cheyenne Air Service, Cheyenne, Wyo.

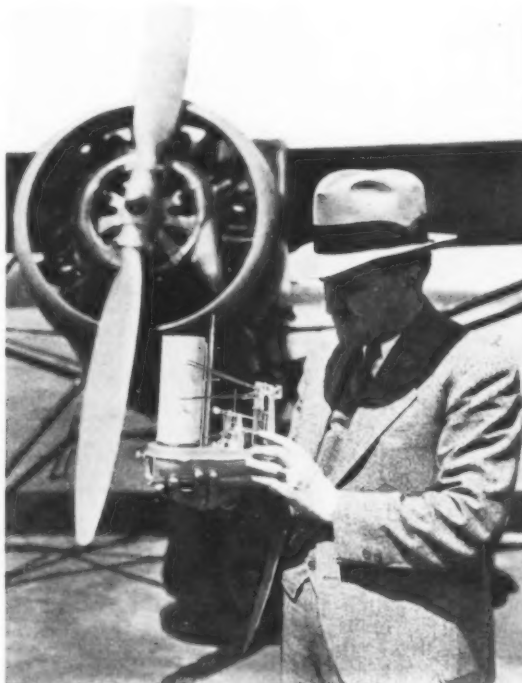
One of these contract pilots flying for the Oakland, Calif., Weather Bureau was recently blown 150 miles off his course while taking weather readings at a height of 16,000 feet. He made a forced landing near Fresno, Calif. Bad weather was the principal cause of the six fatal crashes. Radiometeorographs will eliminate human risk and also enable the Bureau to secure readings in inclement weather, when they are most needed.

## Fairchild Backlog Drops

Fairchild Aviation Corporation recently announced that unfilled orders as of Oct. 31, 1937, were \$1,211,994 against \$1,285,504 a year ago.



New: Taking the place of aircraft for high-altitude weather forecasting is the radiometeorograph, shown above as it is about to be released. The instrument sends back signals by radio, translated into weather forecasts on the ground, thus obviating the need for human risks of flying high in bad weather.



Old: Dr. D. M. Little, chief of the aerological division, U. S. Weather Bureau, with one of the aerometeorographs sent up early every morning at various stations to take soundings in the upper air. This use of the airplane for high-altitude forecasting is being replaced by the balloon.

## Glenn L. Martin Co. Awarded \$5,299,538 Patrol Boat Contract

Curtiss Airplane Gets Navy Award of \$1,828,051 for 58 Scout Bombers, Supplementing \$4,500,000 Contract to Consolidated

The Navy Department on December 23 and 30 awarded two contracts, amounting to \$7,127,589, to the Glenn L. Martin Company of Baltimore, and the Curtiss Airplane Division of Curtiss-Wright Aviation Corp., Buffalo, N. Y.

Glenn L. Martin Company's contract covered purchase of 21 naval patrol bombing planes at a total cost of \$5,299,538. The new planes will replace U. S. fleet equipment which is now becoming obsolete.

Fifty-eight scout bombing planes were purchased from the Curtiss Airplane Division for \$1,828,051. They are to be delivered without engines or propellers, this equipment to be furnished by the government.

Thirty-three patrol bombers were purchased earlier in the month from the Consolidated Aircraft Corp. Total cost was \$4,500,000.

### CONTRACTS

The Department of Labor announced the following contracts, amounting to \$4,709,933.54, signed during the week ended Dec. 23 by various government agencies:

B. F. Goodrich Co., Akron, Ohio, shoes, Army Air Corps, \$12,637.20.

Kollmorgen Optical Corp., Brooklyn, N. Y., lens, Army Air Corps, \$15,770.00.

Aluminum Company of America, Washington, D. C., metals, Army Air Corps, \$15,452.74.

M. L. Bayard and Co., Philadelphia, Penna., airplane parts, Navy, \$23,518.10.

Consolidated Aircraft Corp., San Diego, Calif., airplanes, Navy, \$4,500,000.00.

Pitometer Log Corp., New York City, propeller shaft equipment, Navy, \$118,791.50.

American Optical Co., Southbridge, Mass., frames, goggle, Army Air Corps, \$23,674.00.

The following contracts, amounting to \$119,944.80, were signed during the week ended Dec. 30 by various government agencies:

Standard Oil Company, Chicago, Ill., fuel and oil, Army Air Corps, \$16,640.00.

Shell Oil Company, San Francisco, Calif., fuel and oil, Army Air Corps, \$14,710.00.

Shell Petroleum Corp., St. Louis, Mo., fuel and oil, Army Air Corps, \$19,233.00.

Standard Oil Company of La., New Orleans, La., fuel and oil, Army Air Corps, \$22,805.50.

Standard Oil Company of Calif., San Francisco, Calif., fuel and oil, Army Air Corps, \$21,842.00.

General Cable Corp., Detroit, Mich., electrical equipment, Army Air Corps, \$11,505.30.

Star Machine Manufacturers, Inc., Bronx, N. Y., valve assembly, Army Air Corps, \$13,209.00.

The Department of Labor announced the following contracts, amounting to \$5,334,643.02, signed during the week ended January 6, 1938, by various government agencies:

Grumman Aircraft Engineering Corp., Long Island, N. Y., airplane parts, Navy, \$11,110.02.

Eclipse Aviation Corp., East Orange, N. J., airplane starters, Navy, \$23,995.00.

Glenn L. Martin Company, Baltimore, Md., airplanes and parts, Navy, \$5,299,538.00.

### Possible Emergency Field

Goldendale, Wash., Dec. 16—Goldendale Airport may be enlarged and improved as an emergency field for the new air mail route from Spokane to Portland via Yakima. Northwest Airlines is anxious to have the field improved. Although owned by the city, management of the field is vested in the local post of the American Legion.

### S. E. C.

Following is an official summary of transactions and holdings of officers, directors and principal stockholders of corporations with equity securities registered, filed with the Securities and Exchange Commission Nov. 11 to 30. Unless otherwise indicated, transactions were made in October and holdings are as of the end of that month:

**American Airlines, Inc.**—John J. Grealls, director, increased common 200 to 207 and holds 10,000 4½% conv. debentures. William Littlewood, officer, exchanged 1,250 conv. debentures for 100 common, holding 116 common.

**Consolidated Aircraft Corp.**—C. A. Van Dusen, officer and director, increased common 100 to 3,800 and holds 148 8½% conv. pfd.

**Thompson Products**—Frederick Crawford, officer and director, decreased 1,250 common to 9,754. S. L. Mather, director, acquired 200 common in Dec., 1936, 100 in Jan., 1937, 400 in March, 100 in April, 50 in May and 100 in October, holding 1,100.

**Western Air Express**—William A. Coulter, benef. owner, increased 10,000 common to 84,488.

Following is a tabulation of equity holdings of officers, directors and principal stockholders of companies, any of whose securities have become registered with the Commission. Month covered is indicated in each case:

**Breeze Corp.**—M. Merwin Eells, officer, 500 common, Nov., 1937; John W. Young, officer and director, 4,428 common, Nov., 1937, through J. R. Young, trust, 300 common, Nov., 1937, through M. E. Young, trust, 300 common, Nov., 1937, through M. J. Young, trust, 300 common, Nov., 1937.

**Menasco Manufacturing Co.**—W. R. Atwood, officer and director, 1 common, July, 1937; Nova Poynter, officer, 25 common, Dec., 1936; R. J. Wenger, officer and director (subsequently resigned), 1 common, Dec., 1936.

**United Air Lines**—R. W. Schroeder, officer, 10,000 common, Oct., 1937.

Following is an official summary of transactions and holdings of officers, directors and principal stockholders of corporations with equity securities registered, filed with the Securities and Exchange Commission Dec. 1 to 10. Unless otherwise indicated, transactions were made in November and holdings are as of the end of that month:

**Aero Supply Manufacturing Company**—Frank N. Ames, officer and director, decreased 1,200 Class B to 9,000.

**Brewster Aeronautical**—D. Van Alstyne, Jr., director, none directly; through Van Alstyne Noel and Co., as underwriter (prop int not shown), decreased capital stock 450 to 100 and holds 2,000 common warrants and holds 23,000 common warrants through Van Alstyne Noel and Co., Inc. (N. J.) (prop int not shown). James Work, officer and director, decreased capital stock 642 to 133,104 and holds 25,000 warrants.

**Chicago and Southern Air Lines**—Bruce E. Braun, director, holds 800 common vtc and increased conv. pfd. 50 to 150.

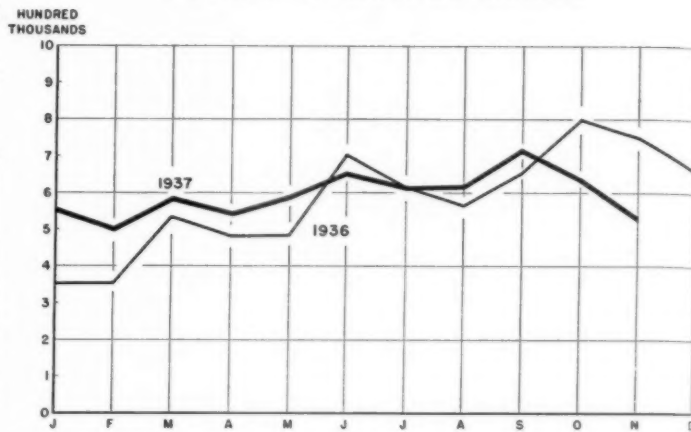
**Consolidated Aircraft Corp.**—Jos. M. Gwinn, Jr., director, decreased 400 common in March, 200 in June, 200 in August, and 100 in September, holding 1,100. George J. Newman, Jr., director, (March, 1937) holds 39 common and acquired 16 pfd. holding that amount.

**Lockheed Aircraft Corp.**—Cyril Chap-pellet, officer and director, decreased 1,500 to 12,507. Randolph C. Walker, director, holds 300 directly; through Mrs. J. S. Walker, wife, (prop int not shown) decreased 1,300 to 20,600.

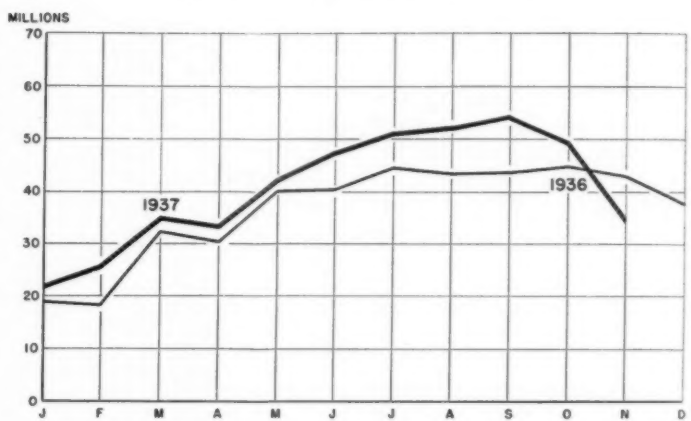
**National Aviation Corp.**—Aviation Sec. Corp., benef. owner, decreased 8 common to 62,110 by exchange.

**Pan American Airways Corp.**—Graham B. Grosvenor, director, decreased 200 5%

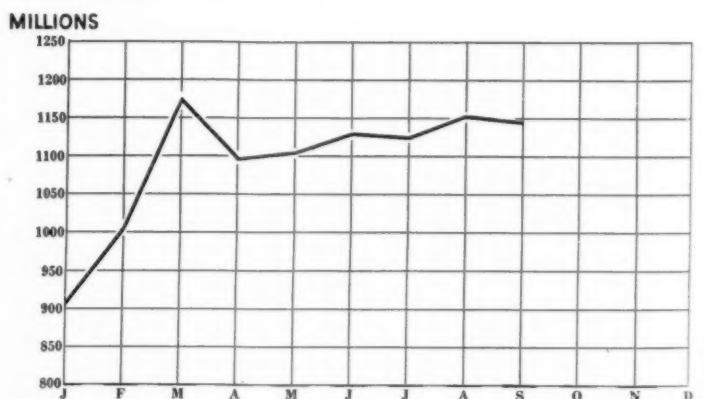
### POUNDS OF EXPRESS CARRIED



### PASSENGER MILES FLOWN



### AIR MAIL POUND MILES PERFORMED



par common to 2,100.

**Stearman Hammond Aircraft Corp.**—Dean B. Hammond, officer, decreased 400 common to 8,800.

**Thompson Products, Inc.**—W. M. Albaugh, officer and director, decreased 300 common to 301.

**United Air Lines**—William A. M. Burden, director (Oct., 1937) increased 200 common to 5,836.

**United Aircraft Corp.**—George S. Wheat, officer and director, (Oct., 1937) transferred all of 2,500 common to trust.

### Cheyenne Buys Land

Cheyenne, Wyo., Dec. 25—The city of Cheyenne yesterday completed the purchase of two tracts of land valued at \$42,000 as a step in its airport improvement program. The land adjoins the airport on the north and was ac-

quired so that runways can be lengthened. Money for the purchases was obtained by the city from a \$165,000 bond issue passed several months ago.

### Italian Claims Record

Rio de Janeiro, Brazil, Dec. 30—Captain Mario Stoppani, Italian flyer, yesterday claimed a new non-stop distance record for seaplanes by flying from Cadiz, Spain, to Caravellas, Brazil, a distance of approximately 4,210 miles. The previous record was held by Henri Guillaumet, French flyer, who flew the French seaplane, Lieut. de Vaisseau de Paris, 3,435 miles non-stop from Port Lyautey, French Morocco, to Maceio, Brazil.

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## N. A. MONTH EARLY ON TRAINER ORDER

Last Unit Completed Dec. 31 to Make Way for 383 New Army Planes

Los Angeles, Dec. 31—With the close of the old year, today, the last unit of the current order for Basic Trainers was rolled out the back door of the North American plant slightly more than a month ahead of schedule. Early Monday morning the workmen will begin the removal and storage of the jigs, dies and other equipment used in the fabrication of these ships and the assembly of such equipment as will be necessary in the construction of 181 observation planes and 202 Basic Combat ships, which is the next order to be filled for the Air Corps.

The order, or combination of orders, just completed was for a total of 234 ships, known to the Services as BT-9-Bs. Of these 117 will go or have gone to the Air Corps, 33 to the Reserve Corps, 48 to the Navy and 30 to Argentina. The remaining six will be for miscellaneous export with Australia and Sweden scheduled for two each.

That these were completed ahead of time was probably due to an unavoidable delay in the plans for the Observation and Basic Combat jobs on which construction was originally scheduled to start some time ago. In anticipation of these the working force at North American was built up to about 2,000 men. When it became apparent that delay was unavoidable these workmen were used to augment the force engaged on the trainers and the work was thereby speeded materially.

The observation ships, known as O47-As, will, when completed, be apportioned to the Air Corps and to National Guard units while the Basic Combats, known technically as BC-1s, will be assimilated entirely by the former. This is a general utility model of the low wing type with a top speed of 200 miles per hour and a cruising speed of about 190. Distribution will be made throughout the entire Air Corps and will be used by officers for cross country trips, messenger planes and such work and will release the heavier combat ships from this sort of service. Since the BC-1s are not only lighter but less expensive this will not only be a convenience but an economy as well.

Deliveries of O47-As are scheduled to begin about the first of March and it is expected that the BC-1s will come along about the same time. Construction of the former is expected to reach a maximum of 15 per month and the latter will be turned out at the rate of one per day before the contract is completed.

### Dick Calkins Appointed

Chicago, Jan. 3—Dick Calkins, wartime pilot and creator of the cartoon strip "Buck Rogers", has been appointed to the Chicago Aero Commission by Mayor Kelly. Merrill C. Meigs, publisher of the Chicago American, is chairman of the commission.

## Rearwin Airplanes Co. Purchases Leblond Aircraft Engine Corporation

Kansas City, Kansas, Jan. 1—R. A. Rearwin, senior partner of Rearwin Airplanes Co., has announced the purchase of the entire assets, including patents, of the LeBlond Aircraft Engine Corp., Cincinnati, Ohio. The LeBlond Corp. will be known in the future as Rearwin Airplanes, Engine Division.

All of LeBlond's machinery and tools, which it is estimated will fill between 15 and 20 railroad cars, will be shipped to Kansas City. Until shipment is arranged, parts will be handled through the Cincinnati office. The

LeBlond Corp. has been building airplane engines since 1927.

Rearwin will continue to build the LeBlond 70 horsepower and 90 horsepower 5-cylinder radial type air-cooled engines. In addition it will build a 125 horsepower 7-cylinder radial type air-cooled engine, which has already been extensively tested by the LeBlond Corp. and is ready for A. T. C. tests.

Rearwin announced that his company will continue to supply engines to other aircraft manufacturers in this country and abroad.

## Fleetwings to Show

### 1938 F5 Amphibian

Fleetwings, Inc., has announced that its 1938 model F5 stainless steel Sea Bird amphibian will be completed in time to be on display at the International Air Show in Chicago, Jan. 28-Feb. 6. An Approved Type Certificate is pending on the new model, of which five are now in production.

The model F401 Sea Bird, launched about a year ago, was the first stainless steel airplane ever built for the commercial market, the company states. This model attained a top speed of 149 miles per hour with a 285 horsepower Jacobs engine, weighed 3,413 pounds completely loaded and had a total useful load of 1,110 pounds.

Some changes in design have been made in the model F5, but for the most part it is substantially the same as the F401. The F5 will carry three passengers in addition to the pilot and has a compartment for 100 pounds of baggage. It is equipped with 70-gallon wing fuel tanks. Cruising range at sea level is 530 miles.

Improvements include a semi-monocoque hull instead of the tubular structure, change of the bow hull contour to provide better vision for the pilot, and addition of a water rudder. The bottom portion of the landing gear fairing retracts off the wheels when the landing gear is lowered, providing a maximum of fairing efficiency when in the air.

## TEST NEW PLANE

### Lockheed Ship Hits Top Speed of 350 MPH

Los Angeles, Dec. 29—A Lockheed sub-stratosphere plane, built secretly for the Army Air Corps last spring, recently hit a top speed of 350 miles per hour over a test course of 220 miles, covering the distance in 38 minutes.

Captains A. H. Johnson and T. A. Sims piloted the ship and Major F. Reed and Captain H. G. Armstrong acted as observers. The cabin of the plane is supercharged, making oxygen equipment unnecessary. The ship is powered with supercharged Wasp engines.

## 1937 Transport Estimates

The Air Transport Association of America on Jan. 4 made available the following revised estimates on traffic for the domestic airlines of the U. S.:

	1936	1937 estimated
Miles flown	63,777,226	65,616,600
Passengers carried	1,020,931	1,102,850
Passenger-miles	435,740,253	469,437,800
Revenue-passenger miles	388,095,200	404,151,100
Express ton-miles	1,860,809	1,993,900
Mail ton-miles	5,741,436	6,525,100
Gallons gasoline (est.)	31,498,500	32,443,500
Gallons oil (est.)	740,900	763,100
Cities served	198	205

## Aviation Calendar

- Jan. 20-21—Mid Winter Meeting. Florida Aviation Association. Ocala.
- Jan. 25—Annual Meeting. Manufacturers Aircraft Assn., New York City.
- Jan. 28—Annual Meeting. Aeronautical Chamber of Commerce, New York City.
- Jan. 28-Feb. 6—International Aircraft Show, Chicago.
- Feb. 11—Institute of the Aeronautical Sciences, Los Angeles Branch Annual Meeting Review, Los Angeles.
- Feb. 11-12—Northwest Aviation Planning Conference, Vancouver, B. C.
- Feb. 11-13—Annual Meeting. Soaring Society of America, Washington.
- Mar. Fourth National Intercollegiate Flying Conference, Washington.
- Mar. 10-11—SAB National Aeronautic Meeting, Washington, D. C.
- Mar. 11-12—Southwest Aviation Planning Conference, Oklahoma City.
- April 2-10—3d Annual Pacific Aircraft and Boat Show, Los Angeles.
- April 12—Aeronautic Meeting. Society of Automotive Engineers. Metropolitan Section, New York City.
- June National Intercollegiate Meet.
- June 19—2d Annual Santa Ana, Calif., Air Show.
- June 25-July 10—9th Annual Soaring Contest, Elmira, N. Y.
- June 28-30—Institute Meeting as part of Summer Meeting of the American Association for the Advancement of Science, Ottawa, Canada.
- Sept. 3-5—National Air Races, Cleveland.

## 600 Cubs In 10 Months

Lock Haven, Penna., Dec. 18—T. V. Weld, president of Piper Aircraft Corp., recently stated that 600 Cubs have been built during the first 10 months of 1937, topping the world record for commercial airplane production established during the entire year 1936 when 550 Cubs were built and sold.

## Low Cost Insurance

### For Student Pilots

New York, Jan. 10—A new "Aero-Age" insurance policy for student pilots was announced yesterday by Wm. W. Brinkerhoff, of the Private Fliers Association.

Student pilots will be able to secure \$500 death and dismemberment protection for \$3.00, a \$5.00 weekly disability income for \$2.00 and a provision for payment of doctors, nurses and hospital bills up to \$500 for \$8.00. Minimum charge for a student policy is \$10.

The "Aero-Age" policy, as soon as approved by the various state insurance departments, will be issued by the Globe Indemnity Company, Royal Indemnity Company, Eagle Indemnity Company, Great American Indemnity Company, London Guarantee and Accident Company, Ltd., and Phoenix Indemnity Company, through Aero Insur-

## CLASSIFIED ADS

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ance Underwriters, pioneer aviation insurance market in this country.

Private flyers may secure the new policy at \$7.50 for \$500 death and dismemberment, \$6.00 for \$5.00 weekly income, and \$17.50 for \$500 medical bills policy.

## Philly Commission

### Reports, Then Quits

Philadelphia, Pa., Jan. 1—Mayor S. Davis Wilson's Aviation Commission yesterday handed certain recommendations to the Mayor and then entered its resignation, stating that it believed it had accomplished its work as fully as possible.

Alfred L. Wolf, executive director of the Commission, said that the members wished to return to their private professions. He will resume his private law practice but will continue to serve as chairman of the State Bar Association's Aeronautic Legal Committee.

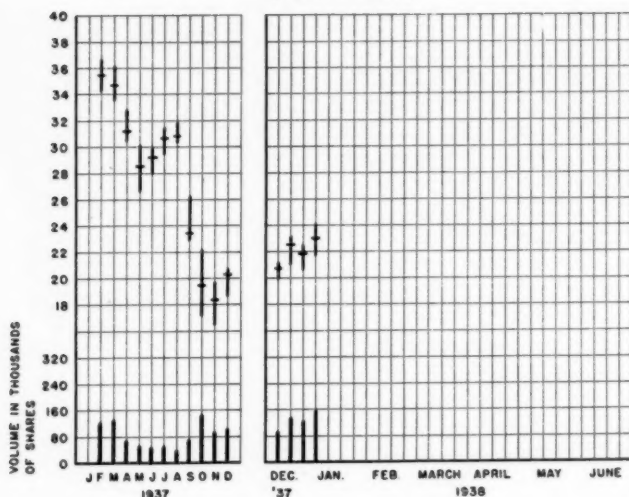
The Commission was appointed on Sept. 9, 1936 to promote aviation in the city of Philadelphia. One of its main objectives was to improve the Municipal Airport in South Philadelphia. Funds were made available through the WPA and the work is rapidly nearing completion. The field is now known as the S. Davis Wilson Airport.

An outstanding accomplishment of the Commission was seen in the passage by the city council of an ordinance zoning the approach areas to airports in Philadelphia. The Commission said that airports are only of limited value if the entire prepared surface is not available for both landing and taking off. With the view in mind of clearing all obstructions from flight passages, the ordinance was framed adopting the ration of one foot in altitude for each 20 feet back from the edge of the prepared landing field surface extending back for two miles.

Members of the Commission who resigned with Wolf are W. Laurence LePage, aeronautical engineer; Miss Georgina P. Yeatman, city architect; Laurence P. Sharples; and Major Victor Dallin of the Pennsylvania National Guard.

## Hanford Reduces Fares

Kansas City, Mo., Jan. 1—J. W. Miller, vice-president and general manager of Hanford Airlines, recently announced fare reductions of as much as 40 per cent in some cases. He pointed out that this is below the cost of rail fare plus Pullman. Thomas F. Ryan, executive vice-president of Hanford, predicted that a new market will be opened up as a result of the reductions.

WEEKLY AVIATION AVERAGES  
(1937-1938)

Data Supplied by Wyckoff Associates, Inc.  
Comments by Philip Friedlander

The year of 1938 begins well enough. As if to contradict all elementary facts, the stock market has displayed real buoyancy. Political uncertainties, business gloom, and increased unemployment seem forgotten. But the market by its action stated in no uncertain terms that a fast and furious recovery move is on the way. Accumulation of equities took place while the business news was bad. Later on, one will hear of improvement in this industry and that industry.

True stocks go up on fright as well as good news. If inflation, with all its horrors, is to plague us, equities would increase rapidly in value. But the difference would be that instead of a broad and general market surge upward, inflation would carry forward only a chosen few securities.

Inflation possibilities might add steam to the general market picture, but, nevertheless, the fact that the recovery move is broad and includes all groups leads one to believe that better business lies ahead.

True to form, when the general market recovery started, the Aviation equities, with the steels, started the forward push. In the November issue

of this magazine, this column pointed out that the stem formation on the Aviation chart suggested the end of the downswing, and heralded the beginning of a new and brighter trend.

At that time the averages went to a low of 12.66. A quick snap-back to 18 confirmed our opinion that a new move up would start in due course. The averages paraded back and forth between 16 to about 18, broadening the base for a bullish turn. Last week the averages hit 24, almost 100 per cent increase in price. It is natural that the zone of 24-25 should present trouble. Anticipating this, we suggested liquidation of trading units in the January 1 issue.

If the reaction is on small volume, and then on the rally the volume picks up, a signal for another attempt forward will be given. A rally from here should not carry more than three points to 26. However, we believe a more advantageous buying opportunity will be given investors later on this month.

In previous reviews our recommendations have included only the manufacturing units in the aviation field. We now feel that some of the bigger and stronger transportation units have some merit and deserve consideration.

## NEW YORK STOCK EXCHANGE

	Week Ending Dec. 18				Week Ending Dec. 25			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aviation Cp. of Del.	37½	31½	— 3½	5,500	41½	31½	— 10	19,200
Bendix Aviation	13	12½	— ½	8,100	13	12	— 1	11,000
Boeing Airplane	29½	27½	+ ½	45,100	33¾	29½	+ 3½	52,300
Consolidated Aircraft	15½	14½	+ ½	25,000	18½	15½	+ 2½	27,800
Curtiss-Wright	3¾	3½	— ½	18,600	4½	3¾	+ ½	47,000
Curtiss-Wright A	14½	13½	+ ½	21,200	16¾	14½	+ 1¾	29,600
Douglas Aircraft	38½	36½	— ½	20,700	41½	38	+ 3	38,600
Glenn L. Martin	17½	16½	+ ½	9,400	20½	17½	+ 2½	35,800
Natl. Aviation Corp.	9	8½	— ¼	1,200	10	8¾	+ 1½	2,600
N. American Aviation	8½	7½	— 1	18,000	9½	8½	+ 1	36,400
Sperry Corp.	15½	14½	+ 1	28,900	16½	14½	+ 2	38,600
Thompson Products	15	13	— 1 13/16	1,700	14½	13½	+ ½	1,500
TWA	5½	5½	— 3/8	8,000	6¼	5½	+ ½	7,200
United Air Lines	8	7½	— ½	10,400	7½	7½	— 1	11,300
United Aircraft	24½	22½	+ 1½	45,600	27	24½	+ 2½	57,500

## NEW YORK CURB EXCHANGE

	Week Ending Dec. 18				Week Ending Dec. 25			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aero Supply A	17	17	+ 13/16	100	31½	31½	+ ¼	2,600
Aero Supply B	33½	31½	+ ½	2,000	41½	41½	— ½	2,600
American Airlines	10½	10½	— ½	1,100	10½	9½	— 3/8	1,300
Beech Aircraft	1½	1½	— ½	2,000	1½	1½	+ ½	1,300
Bell Aircraft	15	12½	+ 2	3,900	16½	15	— 1½	1,600
Bellanca Aircraft	3½	2½	— ½	600	3¾	3¾	+ 1	2,300
Breeze Corp.	7	6¾	— ¼	300	6¾	6	+ ¼	1,100
Brewster Aero	4¾	3½	+ 1/16	7,200	4½	4½	— 1/16	2,500
Fairchild Aviation	3½	3½	— ½	800	3½	3½	+ ½	500
Irving Chute Co.	3½	7½	+ ¾	1,000	9	9	+ 1½	1,700
Lockheed Air	9½	8½	+ ¾	6,700	10½	9½	+ 1	15,000
Pan American Air	19	17½	+ ½	2,300	18½	17½	+ ½	2,800
Seversky Aircraft	17½	19½	+ ½	2,000	17½	15½	— 1	3,300
Waco Aircraft	2½	2½	— 1	100	2½	2½	— 1	1,300
Western Air Express	3½	3½	— ½	800	3½	3	— ½	300

## HAVE YOU A PRODUCTION PROBLEM?

Let us help you solve it. Our stainless steel rudders, ailerons, surfaces and tanks are now going into U. S. Army regular service.

THE STAINLESS STEEL SPECIALISTS

**FLEETWINGS**

Incorporated Bristol, Pennsylvania Phone Bristol 867

## Lockheed Enlarges Plant

Los Angeles, Jan. 5—Lockheed Aircraft Corporation recently announced plans for immediate construction of additional plant units designed to increase the present factory floor space by 25,000 square feet. The improve-

ments, which will cost \$41,500, will increase floor space to 240,000 square feet. Robert E. Gross, president, stated that the additional facilities are designed to increase production to 12 transports a month. At present 1,844 men are employed and 500 more are to be added.

## 1937 NEW YORK STOCK EXCHANGE DEALINGS

	High	Low	Net Change	Year's Sales
Aviation Cp. of Del.	Jan. 12 9¼	Oct. 19 2¼	— 3½	1,063,600
Bendix Aviation	Feb. 11 30½	Oct. 19 8¼	— 15	694,400
Boeing Airplane	Mar. 3 49¾	Oct. 19 16	— 2½	1,363,800
Consolidated Aircraft	Mar. 10 33¾	Oct. 19 8	— 5	234,200
Curtiss-Wright	Mar. 4 8¾	Oct. 19 2	— 2½	2,897,100
Curtiss-Wright A	Mar. 6 23¾	Oct. 19 8½	— 3½	1,047,100
Douglas Aircraft	Jan. 25 77½	Oct. 19 26½	— 32	1,139,700
Glenn L. Martin	Apr. 30 29¼	Oct. 19 10	— 19	349,700
Natl. Aviation Corp.	Jan. 21 18¾	Oct. 19 6½	— 4½	125,300
N. American Aviation	Jan. 21 17¾	Oct. 19 3	— 5	1,879,600
Sperry Corp.	Jan. 12 23¾	Oct. 19 10	— 4½	929,700
Thompson Products	Feb. 11 28½	Oct. 19 10	— 14½	145,500
TWA	Jan. 11 22¾	Oct. 19 4	— 14½	482,700
United Air Lines	Jan. 12 24½	Oct. 19 5½	— 14½	795,600
United Aircraft	Mar. 5 35½	Oct. 19 10¾	— 2½	1,753,700

## 1937 NEW YORK CURB EXCHANGE DEALINGS

	High	Low	Net Change	Year's Sales
Aero Supply A	24½	17	— 5½	3,600
Aero Supply B	6¾	1½	— 1¾	137,600
American Airlines	32¾	7½	— 22½	123,800
Beech Aircraft	4¼	¾	— 3½	26,300
Bell Aircraft	18¾	2	— 3	121,300
Bellanca Aircraft	8½	3	— 5½	44,100
Breeze Corp.	14½	3	— 11½	68,200
Brewster Aero	5½	2	— 3½	113,200
Fairchild Aviation	8¾	1½	— 3	47,200
Irving Chute Co.	18½	5½	— 7¾	523,600
Lockheed Air	16¼	4	— 3	44,600
Pan American Air	26¼	15	— 2½	351,400
Seversky Aircraft	6½	1½	— 5	26,300
Waco Aircraft	17½	12½	— 5	67,700
Western Air Express	13¾	2¾	— 5½	67,700

## NEW YORK STOCK EXCHANGE

	Week Ending Jan. 1				Week Ending Jan. 8			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aviation Cp. of Del.	37½	31½	+ ½	12,100	41½	37½	+ 3½	20,300
Bendix Aviation	12¾	10¼	— 1½	21,700	13½	10½	+ 2½	19,000
Boeing Airplane	33½	29	— 1½	63,350	35	31¾	+ 1½	68,100
Consolidated Aircraft	18½	15½	— 1½	42,100	18¾	17½	+ 3½	31,100
Curtiss-Wright	4½	3½	— 1	48,500	4¾	4	+ ¾	85,200
Curtiss-Wright A	16½	14½	— ½	18,000	17½	15¾	+ ½	30,300
Douglas Aircraft	40	35½	— 1½	36,700	42¾	38¾	+ 2½	39,000
Glenn L. Martin	21¼	18½	+ ¾	39,300	21½	19¾	— 1½	38,700
Natl. Aviation Corp.	10	8¾	— ¾	1,400	10¾	9½	+ 1½	2,100
N. American Aviation	9½	7½	— 1½	32,200	10½	9	+ 7/8	48,000
Sperry Corp.	17½	15	+ ½	40,100	19½	16½	+ 1½	54,100
Thompson Products	13½	12	— ¾	1,900	14½	12	+ 2½	2,000
TWA	5½	5	— ½	13,500	6½	5½	+ 1	5,600
United Air Lines	7¾	6½	— 1½	27,500	8¾	7¾	+ ¾	22,700
United Aircraft	26½	23½	— ¾	60,100	27½	25½	+ 1½	65,200

## NEW YORK CURB EXCHANGE

	Week Ending Jan. 1				Week Ending Jan. 8			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aero Supply A	37½	31½	— 1½	1,800	37½	31½	+ ½	2,800
Aero Supply B	9¾	8½	— 1½	2,200	11¾	9¾	+ 3¼	1,600
American Airlines	17½	15½	— 1	1,400	17½	17½	— 1	400
Beech Aircraft	16	13½	— 1	1,500	16	15	— 1½	1,100
Bell Aircraft	3¾	3	— 1½	1,300	4¼	3½	+ 7/8	2,700
Bellanca Aircraft	6½	5¾	— 1½	1,200	7	6½	+ ¾	1,100
Breeze Corp.	4½	3½	— 1	900	4½	3½	+ ¾	2,300
Brewster Aero	3¾	2¾	— 1	800	3¾	3½	+ 1/8	500
Fairchild Aviation	9½	8½	— 1½	500	10½	9	+ 1½	700
Irving Chute Co.	10½	8½	— 1½	12,600	10¾	9¾	+ 3/8	11,600
Lockheed Air	17½	15¾	— 1½	2,800	19½	17½	+ 2¾	1,400
Pan American Air	17½	19½	— 1½	3,200	21¼	19½	+ 3/8	3,800
Seversky Aircraft	2½	2½	— 1	900	3¾	2¾	+ 1½	1,300
Waco Aircraft	3½	2½	— 3/8	2,100	3½	3	+ 1/2	700
Western Air Express	3½	2½	— 3/8	2,100	3½	3	+ 1/2	700





# The Birdmen's Perch

Don't ask us why, but it seems that a lot of people are just as big pushovers as we are when it comes to solving puzzles and brain-teasers. We've published a few in past issues, and would like to try a few more in the future. If you have any hot ones scribble them down for us and shoot them in pronto to:

MAJOR AL WILLIAMS, alias "Tattered Wing-Tips," Mgr., Gulf Aviation Dept., Gulf Aviation Products, Gulf Bldg., Pittsburgh, Pa.

## HIGH SPOTS OF RESEARCH

"Dear Al: I accept the explanation of Mosley Hussey, Jr. as to 'How Flies Land.' His laboratory has got something there, I think.

"Still, I can't understand how fly specks, (diagram of same will be found at the extreme end of this paragraph), get on the ceiling. If Mosely can figure this out he deserves at least the Collier Trophy."—Bill Young

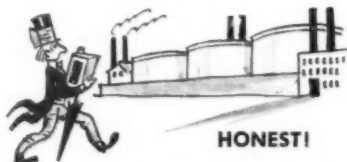
"P.S. I never use Gulf Aviation Gas, on account I have no airplane. Good Gulf, however, makes my new Olds do *everything* the salesman said it would, and believe you me that's no applesauce."

## NEATEST-FEAT-OF-WEEK DEPT.

"Dear Butch: Early last summer, hopping sight-seers from the Trinidad Airport, I took a couple of young farmers for their first hop. At an altitude of about 1500 feet one of them leaned forward and yelled 'We don't seem to be moving at all.' I yelled back 'You guys quit dragging your feet,' and forgot about them.

"Some ten minutes later, before cutting the stick to land, I happened to look back and lo and behold the two gentlemen were still holding their feet straight out and about a foot off the floor.

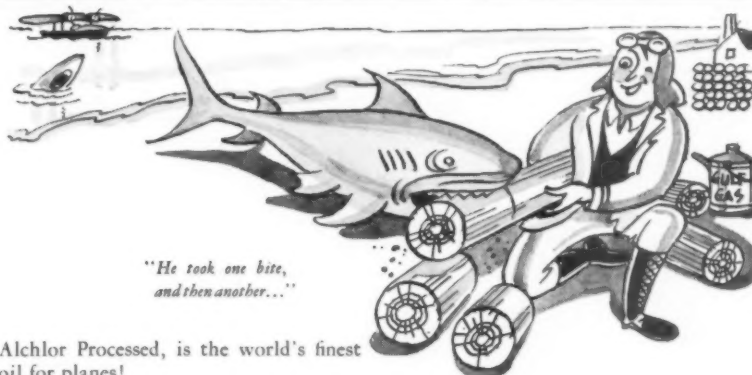
"Says I, 'Okay boys, put 'em down now, we're going to land.' Down came the feet, and we dropped into an easy glide."—W. R. Sutherland



## HONEST!

If you were to take samples of many fine airplane oils to Port Arthur, Texas, and put them through Gulf's Alchlor Process you'd find this truly remarkable fact:

Out of these oils would come as much as 20% of black gummy waste—waste that, before the perfection of the Alchlor Process, *nobody* could get out of oil. That is why Gulfpride Oil, the *only* oil that is



"He took one bite, and then another..."

Alchlor Processed, is the world's finest oil for planes!

## BUG-HOUSE CORNER

Speaking of puzzles, Tattered Wing-Tips is still having a knock-down fight with some pals of ours over this one:

We told them to take two cups full of gasoline, one pink and one white. We



told them to take a teaspoonful of the pink gas and stir it in with the white gas, and then put a teaspoonful of the mixture back in with the pink gas. We said that they would then have just as much pink gas in with the white as there was white in with the pink. Are we a liar? (When you write for correct solution, please give permission to quote your letter).

## THIS MONTH'S WHOPPER

"Dear Major Williams: Well sir, I lived on a beach and owned a small flying boat. Of course I used Gulf Aviation Gas as this was the only gas I could use that would make the darn thing fly.

"Anyway, one day I happened to spill some of it into the water, and a shark playing around the ship got a mouthful of the gas, and Zzip! away he swam. Only he forgot which way land was, and was several yards up on shore before he stopped.

"I didn't want him to die out of water,

so I went ashore and took a fair-sized pole and poked him in the head with it. "He took one bite of that log, and then another and another, and pretty soon I had enough wood sawed up to last me all winter. Now would you believe it, he comes back every fall and wants some of that Gulf Aviation Gas, then he saws wood to last another winter!"—Harry Cramer

Dear Mr. Cramer: We believe it! We even had an experience quite similar. Only our fish was a saw-fish instead of a shark.

When he tasted that wonderful Gulf Aviation Gasoline he hopped clear out of the water, fanned his fins just like a humming-bird, and went darting here and there trying to coax another drink.

Of course he didn't do any heavy wood-cutting like your shark, but we could hold up a picture pasted on a board, and he would get all poised and dart back and forth and cut out the dandiest jig-saw puzzles you ever did see.

We haven't seen him since he got married and gave up drinking. But we hear that he's raising one of the slickest little families of flying fishes in the whole Atlantic Ocean—Editor.

Gulf Oil Corporation and Gulf Refining Company... makers of





**Bound for foreign shores, the giant new Martin Ocean Transport has been delivered to its purchaser. It is an accomplished fact. It has met its unprecedented performance guarantees. It establishes new world standards. The same design, and greater and more efficient developments from it, are available to American and foreign operators interested in practical long-range equipment for the ocean air routes of the world.**

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*Aircraft Since 1909*

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